SHALEFIELDS GRASSROOTS REPORTER

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(PHOTO: TOM JEFFERSON)

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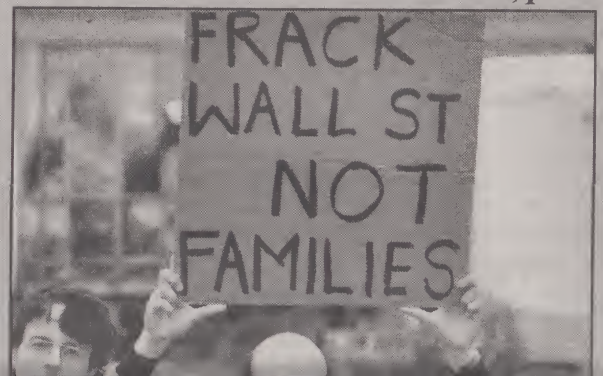

2012: A Year of Solidarity!

Some thoughts on last year's anti-fracking organizing and action from the editors

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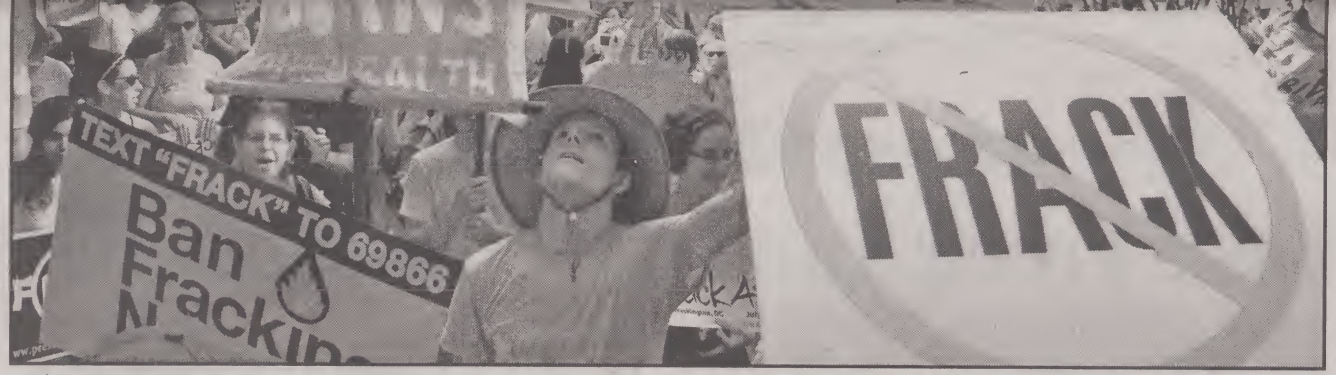

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2012: A Year of Solidarity!

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This is a dynamic time. We are seeing an ever increasing, fever-tempered push from the gas industry to drill as much as possible in the Marcellus and Utica Shales, with infrastructure, in the form of pipelines, compressor stations, processing stations, and more flying behind to keep up with the pace.

We are seeing numerous states, such as Ohio, New York, and North Carolina, broiling over the role natural gas drilling will play in their states. At the same time, the rumblings from below in response, resistance, and defiance of this runaway extraction are growing, strengthening, and shifting from a grumble to a roar.

As we go to print, we have seen and been a part of myriad actions and gatherings that have kept a constant, growing pace all throughout 2012, increasing awareness, shifting public consciousness, building movements, and escalating our tactics. Friends, it is here. It is happening.

On May 21, in Butler County, Pennsylvania, Marcellus Outreach Butler and the Shadbush Collective co-organized the haz-mat suit clad occupation of PA Representative Brian Ellis' office, demanding that he be accountable to The Woodlands, a community in his jurisdiction who lost their water due to fracking, and also to his primary involvement in the passage of ACT 13, a devastating piece of legislation to local autonomy and decision-making in regards to fracking. The Heartwood Forest Council convened in the Allegheny National Forest this year, month period, on June 26 near Athens, OH and on July 16 in Trumbull County, both blocking access to roads that enter toxic frack water injection-well sites. This year has seen unprecedented action against hydraulic fracturing in the Marcellus Shale region, which promises only to strengthen and grow.

If we cut a broader look to our sister anti-extraction movements, the view is electrifying (the kind of electrifying that doesn't come from burning fossil fuels). People all over the country are putting their bodies on the line to stop the fossil fuel industry. Over the summer months, the anti-Mountain Top Removal movement held an occupation of a coal barge, blockaded a road to prevent coal trucks from entering or leaving a strip-mine site, and organized a mass mountain walk-on to shut down the largest strip mine in Appalachia. And even as extreme extraction industries span the continent in their efforts expand globally, local communities are connecting the dots and resisting everywhere. In Texas, local landowners and national allies stood together against the development of the Keystone XL pipeline to transport oil from Canada's tar sands. In Montana, people sat in at the state capitol to protest new coal mines for export business, while in Seattle, thousands packed public hearings opposing the construction of port terminals needed for the same coal export plan.

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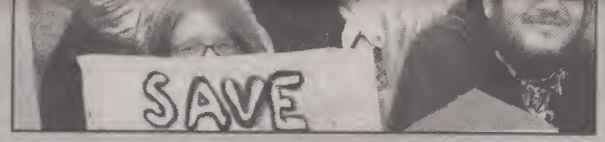
This is building and it will keep building. We are in it. We're through subsidizing the profits of insatiable energy companies with our health, our land, our water, and our air. The more muscle we use now, the more we dismantle the inertia of unquestioned resource extraction. If we throw our all, the closer we are to creating a safe, healthy, intact future. The time is now. So much depends on it.

More information on these actions and others can be found here:

ecowatch.org
ohiofracktion.com
rampscampaign.org
mountainjustice.org
owsstopfracking.org
saveriverdale.com
tourdefrack.com
marcellusearthfirst.org
tarsandsblockade.org
350.org/sos
coalexportaction.org/about



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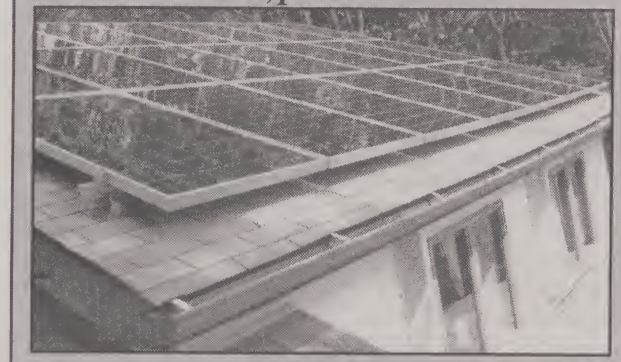

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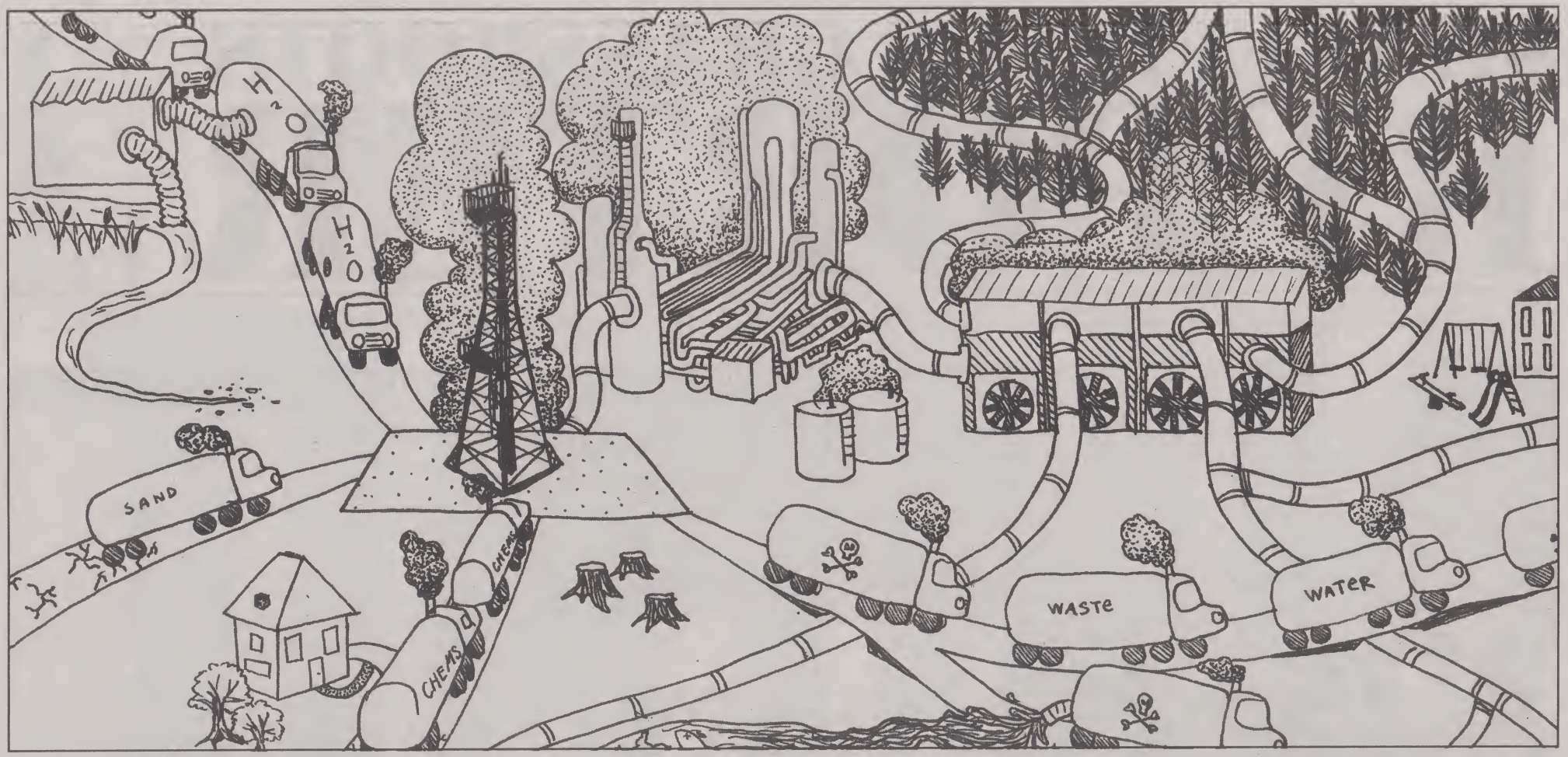

Fracking 101: The Basic Process and the Consequences

By the Shadbush Collective

The Basic Process

DRILLING

Unlike older forms of natural gas drilling, slick water hydraulic fracturing, commonly called "fracking," is a relatively new technology, developed in the last 30 years. This form of drilling is capable of releasing natural gas held in shale rock formations too deep to be drilled conventionally. A well is drilled vertically from 2 to 9 thousand feet deep, and then horizontally into the shale formation for up to a mile[1].

A mixture of fracking water, comprised of 3 to 9 million gallons of fresh water combined with a slurry of sand and tons of chemicals, is pumped under pressure into the well. The pressure causes fractures in the shale formation, releasing natural gas held in the shale, which then flows up the well[2].

People nearest the infrastructure, including workers, are most exposed to these harmful pollutants, which commonly cause respiratory ailments, nausea, nosebleeds, and headaches[22]. The high levels of air pollution released by this industry threaten to roll back the gains our region has made in recent decades, further elevating levels of lung cancer, asthma, and heart disease. Noise pollution is another issue for those who live near fracking infrastructure; drilling, flaring, compressor stations, and processing plants are all heavy industrial activities that produce extreme levels of noise at all times of day[23].

LAND/WILDLIFE

Drilling may take place on public or private land. If landowners own their mineral rights, they may decide whether to lease; if they do not, they have no control over the decision to drill.

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PROCESSING

To be sold, the gas must first be processed, which involves removing impurities and water from the gas in condensate tanks[3]. Gas is then put through a processing facility, and readied for transport. In some areas, known as "wet gas" areas, where other petroleum products like propane and butane are present in the gas, it is sent to additional processing facilities to capture these by-products.

TRANSPORTATION

The natural gas must be transported to processing facilities if they are not onsite, and then to consumers (industries, power plants, overseas shipments, and residential users). This transportation is accomplished through a massive lattice of pipelines with compressor stations located every 40-100 miles along the line. See "Pipelines" on page 4 for more information about transport.

The Consequences

WATER: How much, Where from?

Millions of gallons of water are required to drill each well. This water comes from a myriad of sources, including rivers, streams, ponds, and springs that can be seriously depleted, affecting both local ecosystems and drinking water systems[4]. Even municipal water is bought and piped into drilling sites[5].

WATER: Frack Fluid

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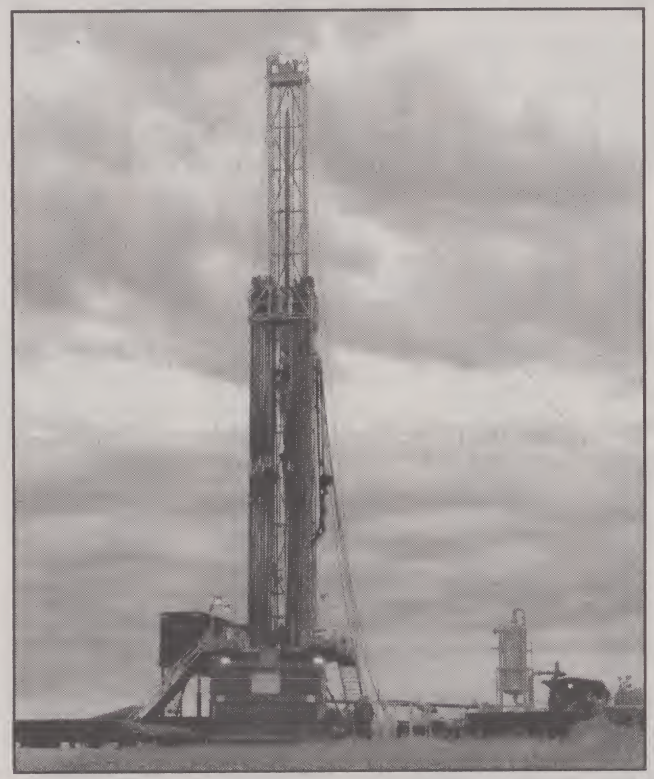

FRACKING IN BUTLER COUNTY, PENNSYLVANIA. (PHOTO: TOM JEFFERSON)

massive amounts of wastewater directly into our waterways with little or no treatment. Though this disposal method has been mostly eliminated after state regulators asked companies to voluntarily cease this practice, spills and illegal dumping are still common[8, 13, 14].

Many companies now claim to be "recycling" much of the flowback water, which involves diluting reclaimed wastewater with fresh water to use again for fracking. While this may look like a better option, with each fracking the wastewater accumulates higher concentrations of toxins and eventually becomes unusable. This highly concentrated contaminated water must then be disposed of.

WATER: Groundwater Pollution

Drilling wells are lined with a cement casing, intended to prevent frack water and natural gas from leaving the well and migrating into groundwater as it travels back up the well.

People nearest the infrastructure, including workers, are most exposed to these harmful pollutants, which commonly cause respiratory ailments, nausea, nosebleeds, and headaches[22]. The high levels of air pollution released by this industry threaten to roll back the gains our region has made in recent decades, further elevating levels of lung cancer, asthma, and heart disease. Noise pollution is another issue for those who live near fracking infrastructure; drilling, flaring, compressor stations, and processing plants are all heavy industrial activities that produce extreme levels of noise at all times of day[23].

LAND/WILDLIFE

Drilling may take place on public or private land. If landowners own their mineral rights, they may decide whether to lease; if they do not, they have no control over the decision to drill. Land in state forests is also leased to drillers, which results in massive industry set up on remaining forest land. When wells, pipelines, and other associated infrastructure are established in forest settings, an average of 21 acres of surrounding forest loses habitat value for interior forest species due to habitat fragmentation and stream and wetland crossings. With an average of 9-11 acres of cumulative land used for the well pad and associated infrastructure, this means that intact habitats for wildlife are disappearing[24].

PUBLIC

The public sector is often responsible for cleaning up the problems left behind by fracking. On the municipal level, local roads and bridges are ruined by constant traffic from heavy trucks which local government must often foot the bill to repair[19]. Individuals are forced to absorb many costs, as their property values plummet when their water wells go bad, or their rural neighborhoods are transformed into industrial zones. Individuals must also take on health costs incurred from exposure to poisoned air and water, and companies are rarely forced or compelled to help non-leasers move, supply them with lost water, or pay for fracking-related medical care.

REGULATIONS/LEGISLATION

Gas and oil companies enjoy exemptions from key provisions of seven major federal environmental laws, including the Safe Drinking Water and Clean Air acts, through something called the "Halliburton Loophole[25]." This was created in 2004 by then Vice President Dick Cheney, who incidentally is a former CEO of Halliburton, the company that developed slickwater hydraulic fracturing[26]. Oil and gas companies are held accountable to scant national regulation.

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WATER: Frack Fluid

A cocktail of chemicals and sand are added to these millions of gallons of water used for the fracturing, including biocides, corrosion inhibitors, and friction reducers, many of which are carcinogens, ozone precursors, neurotoxins, and heavy metals. About twenty percent of this toxic frackwater, called "flowback water," comes back out of the well. This flowback water is significantly more toxic than the original frack water because it acquires numerous toxins that are present deep underground, toxins that usually are naturally kept safely away from aquifers and life at the earth's surface. Drilling and fracking create a pathway to the surface for methane, heavy metals, poisonous levels of mineral salts, toxic organic compounds, and radioactive elements[6, 7, 8, 9, 10, 11]. This highly toxic fluid then needs to be disposed of.

WATER: Surface Water Pollution

The flowback water is often initially kept in lined holding ponds, and toxic pollutants evaporate off these ponds into the air. These are supposed to be temporary holding zones until the wastewater can be transported elsewhere or treated, though sometimes the water is left in the ponds for long periods of time. These ponds also occasionally have tears in the lining, causing frack fluid to seep into the ground, or overflow in heavy rains onto nearby land and into streams. Drilling-site spills have made groundwater unsafe to drink, and have caused deaths and birth defects in animals[12].

For two years in Pennsylvania the gas industry legally dumped

FRACKING IN BUTLER COUNTY, PENNSYLVANIA. (PHOTO: TOM JEFFERSON)

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WATER: Groundwater Pollution

Drilling wells are lined with a cement casing, intended to prevent frack water and natural gas from leaving the well and migrating into groundwater as it travels back up the well. These casings, however, are sometimes installed improperly, or they crack or "blowout," creating a conduit from the drilled well to aquifers[15]. Well water contamination due to drilling is common; despite industry rhetoric these casings are not a fail-safe prevention, even if they are installed correctly[16, 17].

Waste frack water is currently most often transported to injection well sites, where it is pumped under pressure into wells underground. In the Marcellus region, injection wells are located in Ohio and West Virginia, and have caused earthquakes in this very seismically stable region, in addition to threatening groundwater supplies[18, 19]. It is a structural reality that cement eventually breaks down; there is no scientific guarantee that drilling or injection wells are capable of preventing groundwater contamination decades and centuries in perpetuity. See "Injection Wells" for more details on the disposal of fracking wastewater.

AIR

Drilling for natural gas deteriorates air quality in all phases of gas development--the drilling itself, well completions, fracking, pipelines, and other associated infrastructure. An average of 1,000 diesel truck trips are required per well[20, 5]. Flaring, holding ponds, compressor stations, condensate tanks, and processing plants are all serious sources of air pollution[21].

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State legislation varies from Vermont, which recently passed a statewide ban on fracking, to Pennsylvania, which began with open doors to the industry, and is now slowly passing patchy legislation that does not keep up with the industry's pace of expansion--that is, when legislators aren't enacting laws that facilitate unregulated drilling, such as Act 13 (see "Local Officials Defend Community Rights, Win Partial Repeal of Act 13" on page 5)[13, 8, 27]. Moreover, the PA Department of Environmental Protection, the agency charged with monitoring and enforcing environmental laws, is seeing repeated budget cuts, and currently has roughly 80 inspectors to cover all of the Marcellus development in the entire state, including 9,800 drilled wells[28, 29].

CLIMATE CHANGE

Despite claims by the industry and politicians, natural gas is not a "bridge fuel" that will move us away from fossil fuels and slow down climate change. Fracking for natural gas is more devastating for the climate than even coal because of the huge amount of energy required in the process and the plumes of methane—a greenhouse gas that is 20 times more potent than CO_2—which are constantly emitted from wells. With record heat and drought in summer 2012, we are seeing only the early stages of climate change. There is no time to waste on false solutions like natural gas.

Josh Fox on Climate Change, Movement Building, and Story Telling

The Shalefields Grassroots Reporter team recently caught up with Gasland filmmaker Josh Fox. Over the past four years, Josh has traveled extensively throughout the US Shalefields as a documentary filmmaker and activist. His first documentary, Gasland, was catalytic to the movement to stop fracking nationally. We are now awaiting Gasland 2, which is in its final stages of production.

Shalefields Reporter: Josh, you have worked with grassroots organizations all over the country, on a national scale. What does this movement against fracking look like?

Josh Fox: Well, the gas industry likes to call shale gas a "game changer"—[in] terms of an energy resource. And they are right about it being a game changer—I think they are wrong about how. Fracking is a "game changer" because what it's done is alerted huge amounts of people all across the United States. [We] are talking about something that is a crisis in 34 states.

It has [...] energized people towards taking back their own power, both in terms of democracy and also in terms of power, actual energy. Fracking represents a threat to people in their homes, in their own backyards [and] in their communities[...].

In America we have wonderful and beautiful and amazing

(PHOTO: COURTESY JOSH FOX)

to coal in terms of health effects on the ground [and] CO_2 emissions. If we make a switch from coal to gas then we are [only] going to [...] change where the polluted communities are—just changing the source rather than reducing [pollution].

Shalefields Reporter: You have been involved in the organizing against Keystone XL Pipeline. Can you talk about the parallel movements against fossil fuel extraction around the country?

Josh Fox: We're running out of the easily obtained oil, gas, and coal. The fossil fuel industry has shifted to a different paradigm, which is "extreme energy." Now, if we are running out of something and we [know] that we [are] going to run out, the logic of a sane person is to say: "Well alright, let's find an alternative." The sane people out there in the world found an alternative, and that is renewable energy, green power—actually, truly, clean green power.

What the fossil fuel industries have done [is]—instead of shifting their enormous might and weight towards green energy—they have kind of gone insane, and developed what I am calling "extreme energy." The big four to me are: fracking; mountain top removal [where] they literally blow off the top

Shalefields Reporter: It is so sad to know that in order to get anything out of the companies people have to sign these agreements, or not get anything.

Josh Fox: I know don't know enough about this, but [it] just came over the wire that there was a 1.6 million dollar settlement in PA—three families against Chesapeake. Now those families contend they did not get the value out of their homes, but they also did not have to sign a non-disclosure agreement, and they refused to sign non-disclosure agreements, so we can hear more from those people, which is crucial.

This systematic silencing of people who have been contaminated by the gas industry has to stop. And thankfully those people stood up and said: "No. No, we are not signing those agreements. We are going to maintain our story and keep talking about what happened to us."

Shalefields Reporter: What was your path to being part of this movement, as well as a documentary film maker?

Josh Fox: I make plays. I am a theater director. That is what I have been doing for the last 16, 17 years. [...] So I am used to making work out of what happens to me in life. This is my normal kind of occurrence. I had never made a documentary before. I had made 1 feature film and 25 different plays.

Then the gas industry came to me and to my family to lease. They're not very upfront. They're not very truthful. [They] say, "oh, you're going to make a lot of money. [...] It's a fire hydrant in the middle of the field, you'll hardly know we are here." They don't show you water on fire because of migration. They don't show you the chemical contamination or the sicknesses people have. They don't show you any of that.

So, I went to investigate, just 60 miles away to Dimock and found total chaos: a community that was despairing and afraid and confused. Then [I] traveled out west to see if that story in Pennsylvania was mirrored by people's experience out west. It was the same thing in Arkansas, Louisiana, Texas, Wyoming, Nevada, New Mexico, Colorado.

This was happening over and over again[...]. And they tell people one thing when they first arrive, and what those folks get is quite different. The sum total of my ambition was to get the message to people in my area who were leasing. [It] was to say: "Look before you do this."

Look, my neighbors have leased; I am completely surrounded by people who have leased. All I wanted [was] to bring information from people out in Wyoming, whether farmers [or] ranchers or [people] from suburban Colorado, who have had this experience and [can] be a kind of conduit.

As a filmmaker, to be like: "Look, here is the information of people who have experienced this." We did have a thought, "well, you know, maybe eventually we will put together a full length feature film..."

Then my friends started watching the clips and excerpts, hearing the issues, looking at me saying: "You need to devote

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It has [...] energized people towards taking back their own power, both in terms of democracy and also in terms of power, actual energy. Fracking represents a threat to people in their homes, in their own backyards [and] in their communities[...].

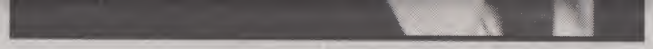
In America we have wonderful and beautiful and amazing places to live. These are the places that are imperiled, whether rural areas or suburban areas, or cities like Pittsburgh or Fort Worth, or cities like New York or Philadelphia whose water supplies are [downstream] from them. [There is] a threat that's no longer abstract[ed] from the oil and gas industry. It's not a question of this idea [of] creating carbon in the atmosphere [or] using fossil fuels for energy. It is not an abstract threat in terms of climate change. It is now a direct threat to people.

It will transform the place you live from some place [where] you like to live, hopefully, to some place that is awash in toxic emissions, [where] you can no longer rely on the ground water, [where] you have thousands of trucks coming day and night, and compressor stations, and pipelines, and mini-refineries. All this infrastructure [...] is not good to live around. I think that has changed the game.

So what I have seen—and its been incredibly inspiring—is people organizing and coming together in ways they have never come together before [...] to try to fight this. They have their work cut out for them, and we have our work cut for us. We are talking about fighting off one of the most powerful industries, [...] that is to say, the industry with the most money on the planet, in history.

Shalefields Reporter: As you have a pulse on the national conversation surrounding Shale Gas Development, can you speak to the recent involvement of the bigger national environmental groups?

Josh Fox: [...]You know, [there was] the idea that gas was



(PHOTO: COURTESY JOSH FOX)

to coal in terms of health effects on the ground [and] CO_2 emissions. If we make a switch from coal to gas then we are [only] going to [...] change where the polluted communities are—just changing the source rather than reducing [pollution].

Shalefields Reporter: You have been involved in the organizing against Keystone XL Pipeline. Can you talk about the parallel movements against fossil fuel extraction around the country?

Josh Fox: We're running out of the easily obtained oil, gas, and coal. The fossil fuel industry has shifted to a different paradigm, which is "extreme energy." Now, if we are running out of something and we [know] that we [are] going to run out, the logic of a sane person is to say: "Well alright, let's find an alternative." The sane people out there in the world found an alternative, and that is renewable energy, green power—actually, truly, clean green power.

What the fossil fuel industries have done [is]—instead of shifting their enormous might and weight towards green energy—they have kind of gone insane, and developed what I am calling "extreme energy." The big four to me are: fracking; mountain top removal [where] they literally blow off the top of the mountain; tar sands development, this unbelievably destructive form of getting oil from underneath this huge boreal forest in Canada—one of the most pristine and amazing places on earth[...]; and also let's not forget deep water oil drilling, which caused this enormous well blowout and the contamination and pollution of the Gulf of Mexico. [...] That's what I am thinking is extreme, when you are doing something extreme it's necessarily kind of unstable.

Shalefields Reporter: The national attention on fracking has been encouraging, but it seems to be directed to places like Ohio and New York where the fight might be seen as more "winnable." We're obviously rooting for allies in New York and Ohio – no one should be exploited by this industry – but here in Pennsylvania it feels like everything is stacked against us.

Josh Fox: Well, look, I am a Pennsylvanian. I am focused on New York right now because I understand that NY has national and international significance. PA is getting decimated, and it is absolutely a crime[...]. There can't be enough said about what is going in Central PA and Western PA. There is going to be a lot of PA in Gasland 2, which is our next film. It destroys me, because I have been with people—these are my people, my own people—who are being forced to move out of their houses, because their neighbors leased.

They put in a well across the fence. Families, who have been there for five generations, [...] [from] all walks of life politically-speaking—[these] folks are now forced to leave their homes. They're no longer safe; their water is no longer safe. There are

Then the gas industry came to me and to my family to lease. They're not very upfront. They're not very truthful. [They] say, "oh, you're going to make a lot of money. [...] It's a fire hydrant in the middle of the field, you'll hardly know we are here." They don't show you water on fire because of migration. They don't show you the chemical contamination or the sicknesses people have. They don't show you any of that.

So, I went to investigate, just 60 miles away to Dimock and found total chaos: a community that was despairing and afraid and confused. Then [I] traveled out west to see if that story in Pennsylvania was mirrored by people's experience out west. It was the same thing in Arkansas, Louisiana, Texas, Wyoming, Nevada, New Mexico, Colorado.

This was happening over and over again[...]. And they tell people one thing when they first arrive, and what those folks get is quite different. The sum total of my ambition was to get the message to people in my area who were leasing. [It] was to say: "Look before you do this."

Look, my neighbors have leased; I am completely surrounded by people who have leased. All I wanted [was] to bring information from people out in Wyoming, whether farmers [or] ranchers or [people] from suburban Colorado, who have had this experience and [can] be a kind of conduit.

As a filmmaker, to be like: "Look, here is the information of people who have experienced this." We did have a thought, "well, you know, maybe eventually we will put together a full length feature film..."

Then my friends started watching the clips and excerpts, hearing the issues, looking at me saying: "You need to devote time to this. This is like An Inconvenient Truth. You have a huge story on your hands. You have to deal with this."

About 40-50 million people have seen this film, but it was born out of this local concern and local action[...]. Now it is this lightening rod that the oil and gas industry has consistently attacked and smeared, and spent millions and millions of dollars trying to counter the things we show in the film, because I don't think they thought anybody was actually going to pay attention.

Shalefields Reporter: I will always remember the first the time it was screened in Pittsburgh in the theater downtown.

Josh Fox: Oh my God, that was awesome. That was a great a great night—1,000 people at the Byham Theater.

It was the first night I had ever been to Pittsburgh. I will never forget the people in Pittsburgh. [...] What a raucous discussion we had! A panel discussion with a state assemblyman on stage, and the crowd booed him into—like, literally, booed him into sponsoring a moratorium bill. It was so great!

That is what I have experienced going all around the country. You'd be shocked at the number of people who have come out of this.

That was when I realized—and that was two years ago—this is a game a changer. People want to live in places that are not toxic, funnily enough; they want to live in places which support them environmentally.

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Shalefields Reporter: As you have a pulse on the national conversation surrounding Shale Gas Development, can you speak to the recent involvement of the bigger national environmental groups?

Josh Fox: [...]You know, [there was] the idea that gas was preferable to coal in terms of its emissions [...] and climate change. The gas industry actually bought off the environmental movement for a very long time saying, "Look we [natural gas] are 52% CO_2 emissions of burning coal." The environmentalists were like, "Oh that's great. Maybe we can use it as a bridge fuel." But, as it turns out, methane [in] the natural gas is many many times more potent than CO_2 as green house gas in the atmosphere.

It traps more heat than CO_2 in the short term. When you vent off this enormous amount of methane and drill for gas—and especially [when] fracking for gas—you're venting off huge quantities of methane directly into the atmosphere. It is the number two most important greenhouse gas. So, actually, when you are taking [into account] the whole lifecycle, it's worse to use gas than it is to burn to coal.

Now, I am not suggesting we burn coal. We have to get off both of them. It took awhile for a lot of the mainstream environmental movement, Sierra Club being the notable example. Bill McKibben and 350[.org] were very fast to absorb this information and go: "Uh, wow, we may need to be against coal and gas." It's really about fossil fuels and looking at the amount of carbon dioxide and methane in the atmosphere, and what we can actually take. We have to make this transition as quickly as possible. There were myths that were propagated by the gas industry and that is one of them—[that] gas is preferable boreal forest in Canada—one of the most pristine and amazing places on earth[...]; and also let's not forget deep water oil drilling, which caused this enormous well blowout and the contamination and pollution of the Gulf of Mexico. [...] That's what I am thinking is extreme, when you are doing something extreme it's necessarily kind of unstable.

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They put in a well across the fence. Families, who have been there for five generations, [...] [from] all walks of life politically-speaking—[these] folks are now forced to leave their homes. They're no longer safe; their water is no longer safe. There are emissions coming into their homes, poisoning their children and they have to sell that property, which they have had in their family for generations, to the gas company and sign a non-disclosure agreement.*

In most cases [it] says they can never tell the story of what happened to [them]. And when that is going on you've violated someone's human right, because you've destroyed the two primary things, in my book, that make them who they are: where they come from and their ability to tell their story.

You know I am a storyteller. To think that you have to sign a non-disclosure agreement to simply get out of this perilous situation—to me this is an atrocity. I have known many of these families who then, all of a sudden, go off the radar and can no longer speak to me. [They] can't talk to me about their stories, because they were forced by this toxic situation that was all around to sell their house, to sell their property, to abandon where they live, because it was unsafe. And, as a condition for getting out of that situation, [they] can no longer speak about it. This is what is happening in PA.

**A non disclosure agreement is a legal, binding document that requires all parties to maintain secrecy about the details in a damage lawsuit brought against the gas industry. Often holding a much needed settlement over their heads, the gas industry requires people to sign these agreements before they will settle.*

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To view Josh Fox's short films and stay up-to-date on the progress of Gasland 2, visit his Vimeo channel:

vimeo.com/user840308

TAR SANDS PROTEST OUTSIDE THE WHITE HOUSE IN WASHINGTON, D.C. (PHOTO: AMY DEWAN/VTARSANDSACTION.ORG)

Pipelines: The Next Piece of Marcellus Expansion

By Sara Grozanick

The effects of fracking extend well beyond the well site, even to areas where there is little or no drilling. The boom in shale gas extraction and production that fracking has made possible also demands a vast supporting infrastructure to process and ship gas. This is the latest encroachment of the Marcellus Shale industrial complex into our communities: the construction of an extensive system of pipelines and other "midstream" infrastructure to connect points of production to the market.

Pipeline Basics

The pipeline infrastructure that crisscrosses the United States is made up of three types of lines: gathering, transmission, and distribution lines. Gathering lines transport gas from the point of production, the well-site, to transmission lines; transmission lines are the larger arteries that move the gas across long distances to distribution lines; distribution lines bring the gas to consumers[1].

Also included in this vast network are compressor stations and processing plants. Natural gas must remain pressurized to keep it flowing; to accomplish this, compressor stations are situated along the pipelines every 40 – 100 miles[2]. According to the U.S. Department of Transportation, Pennsylvania currently hosts approximately 60,000 miles of pipelines[3].

Problems and Dangers

Using data from development in Bradford County, the Nature Conservancy estimated a ratio of 1.65 miles of gathering line

Compressor Stations are Industrial Sites

Compressor stations are an integral piece of the Marcellus Shale complex. The stations, which can vary in size, are located along the pipeline every 40 to 100 miles, and operate around the clock, 365 days a year. Compressor stations also often include some kind of liquid separator to filter out water and hydrocarbons[2].

Compressor stations are known polluters. The real-life legal battle that gained notoriety in the film Erin Brockovich revolved around a Pacific Gas & Electric compressor station in California that contaminated soil and an aquifer, harming the health of residents[7]. They are prolific emitters of air pollution. As Pam Judy, a resident living near compressor station in rural southwestern Pennsylvania describes it, "It smells like some kind of petroleum, but you can't pinpoint it." People living downwind of these industrial sites can suffer from fatigue, as well as a host of daily ailments—dizziness, nausea, nosebleeds, headaches—and are exposed to cancer-causing toxins like benzene. Unfortunately, state officials who are monitoring levels of environmental toxins only looked at the short-term risks, failing to address cumulative effects or the cancer risks[8].

Furthermore, disasters do happen. In November 2011, a compressor station exploded in Bedford County, resulting in the evacuation of about 150 people from this rural area. Over a dozen fire departments from Pennsylvania, Maryland, and West Virginia were called in to fight the fire[9].

As the Marcellus Shale industry expands, it is likely

Marcellus Industry Rolling Back Region's Gains in Air Quality

By Jamin Bogi
Group Against Smog and Pollution

Drilling for an unconventional natural gas well in Butler County, PA was underway recently, and Group Against Smog and Pollution (GASP) was on hand to monitor air emissions at the request of a citizen. Except for the loud noise, all seemed fine—initially. However, methane leaking from a natural gas well has no odor, and after half an hour, the monitor detected the methane that our noses could not.

Just as we wouldn't have known about the rising methane without the beeping monitor, there is growing concern that health conditions reported by residents near natural gas drilling operations might be being caused by leaks or low-level toxic emissions often undetectable by any of our senses.

Localized, immediate health threats are always a concern to citizens that live near this industry. Air toxics like benzene and formaldehyde, emitted at various points of the extraction and processing of natural gas, are carcinogenic and can cause other serious health problems such as neurological damage. Cornerstone Care, a local healthcare provider, shut down operations at its Burgettstown, PA facility on May 4th, due to odors that made staff and patients ill—odors possibly coming from the plethora of Marcellus Shale drilling and processing sites around the clinic[1].

Janet McIntyre of Butler County is also surrounded by the Marcellus industry and tells of a metallic taste on her lips, headaches, and burning eyes, which she experiences after being outside for even brief periods of time[2].

The long-term effects on ambient levels of air pollution are also of serious concern. The unconventional gas industry is a significant, rapidly-growing source of nitrogen oxides (NOx) and volatile organic compounds (VOCs), both of which form ground-level ozone.

Ozone causes or worsens a number of respiratory ailments, such as asthma, bronchitis, and emphysema. Recently, most of Southwestern PA was declared to be in non-attainment of the Environmental Protection Agency's (EPA) 2008 ozone standard of 0.075 ppm[3].

That means millions of people in our region are already being exposed to harmful levels of ozone pollution. In fact, the Asthma and Allergy Foundation of America recently ranked Pittsburgh

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Using data from development in Bradford County, the Nature Conservancy estimated a ratio of 1.65 miles of gathering line for every well pad; however, they also note that in counties with a lower density of well sites—Bradford has the most wells in the state—the ratio of pipelines to well pads will likely be higher[4].

What does this actually mean in terms of pipeline development across the state? A low development scenario for the Marcellus Shale is 6,000 well pads (with as many as 12 wells drilled from one pad). Using the relatively conservative 1.65-mile pipeline ratio, this scenario would result in about 10,000 miles of new gathering pipelines by 2030. The Nature Conservancy describes a "medium development scenario" of 10,000 well pads. This number of well pads would result in approximately 16,500 miles of new gathering lines by 2030. The high development scenario of 15,000 well pads would result in 25,000 miles of new gathering pipelines by 2030[4]. To help put these numbers in perspective, the area of Pennsylvania itself is approximately 45,000 square miles[5].

Cleared rights-of-way for pipeline development can range anywhere from 30 to 150 feet. It is likely that 50% of all future pipelines will be built in forested areas—and that's a conservative estimate. Taking the medium development scenario, which, given the current number of well permits, seems a likely baseline—it is estimated that 100,000 acres of forest area will be cleared for future pipeline development. This type of disruption proves particularly devastating for deep forest species like the black-throated blue warbler, salamanders, and many native wildflowers, posing a real threat to the biodiversity of our region's ecosystems[4].

While it's clear that the gathering line system will expand rapidly with Marcellus production—and particularly in rural areas—state agencies and legislators have done little to ensure adequate regulation. Although the new lines for shale gas require much larger pipes and run at pressures far greater

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As the Marcellus Shale industry expands, it is likely that hundreds of compressor stations will be built across Pennsylvania: more forest area will be cleared, more toxins emitted into our air, more people will suffer[4].

Our Rights vs. Their Profits? Pipelines and Eminent Domain

Privately owned and operated pipeline companies can use the power of eminent domain against property owners whose land is in the path of a projected pipeline. Companies that operate interstate transmission lines are normally granted eminent domain when they receive approval of their lines from the Federal Energy Regulatory Commission (FERC). Also, increasingly, pipeline companies are gaining the power of eminent domain for the construction of gathering lines by seeking status as "public utilities" from the state level Public Utilities Commission[10]. Parts of Act 13 which were upheld by Commonwealth Court (see "Local officials defend community rights..." on page 5) seem to expand eminent domain power for pipeline operators, especially for the development of gas storage facilities[11]. Essentially, companies have been given government power to seize private property for their own profits, with no recourse for the landowner.

Landowners in the Endless Mountains region of northern PA have been fighting Central New York Oil and Gas Company (CNYOG), LLC, since federal regulators granted the company the right of eminent domain for a proposed transmission line. Residents claim that FERC granted CNYOG eminent domain without first requiring the company to negotiate good faith monetary compensation with the landowners, who have had their properties destroyed without their permission[12] .

So What Does This Mean for Our Organizing?

As a critical piece of infrastructure, pipelines serve as useful

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That means millions of people in our region are already being exposed to harmful levels of ozone pollution. In fact, the Asthma and Allergy Foundation of America recently ranked Pittsburgh as the fourth-worst U.S. city for asthma sufferers, due in part to our air pollution[4]. If not strictly regulated, the growing gas industry could wipe out all of the emissions reductions that other sources of pollution have made in recent years.

To get a handle on the scope of the potential problem, the Pennsylvania Department of Environmental Protection (PA DEP) required companies involved in the industry to submit data on their 2011 air emissions[5].

A final report is due December 31, 2012 and should provide a good start to understanding the scope of this issue in Pennsylvania. GASP found several errors with DEP's initial plans, however, such as missed companies, missed sources, and other problems[6].

Meanwhile, GASP is supporting and assisting in an independent air emissions inventory, covering the whole of the Marcellus "play". Fully characterizing the sources and types of emissions in the Marcellus region will help regulators identify the biggest sources of emissions and thus, the quickest ways to reduce pollution from this industry.

Other regions have found compressor engines and condensate tanks to be the largest sources of NOx and VOC emissions. Results here should be similar, but because we have a different "blend" of gas we should see slightly different results. This work is nearing completion and we expect publication of the results soon.

The federal Environmental Protection Agency (EPA) is also weighing in, having recently issued the first-ever federal air standards for fracked wells and certain associated equipment[7]. While not perfect, the new regulations will result in large reductions of air toxics, methane, and VOCs from this industry.

It's also important to note that the EPA didn't take this

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While it's clear that the gathering line system will expand rapidly with Marcellus production—and particularly in rural areas—state agencies and legislators have done little to ensure adequate regulation. Although the new lines for shale gas require much larger pipes and run at pressures far greater than traditional gathering lines, legislators are reluctant to add rules that could slow down the gas rush. Gathering lines in rural areas, designated "Class 1," have no federal or state safety regulations. In practice, pipelines are installed in a short time frame; they can be laid at a shallower depth; companies can use thinner pipe and do no inspections[6].

"It's all about money," says Bill Wilson, president of a landowner group in Wyoming County, who characterizes the rules as a calculation balancing safety against population numbers—a calculation that treats rural residents as "collateral damage[6]."

Although the industry claims to self-regulate with high safety standards and state officials have taken a "not broke, why fix it?" approach, pipelines do rupture. Recent blowouts in Texas and Oklahoma resulted in multiple deaths. As Richard Kuprewicz, an engineer and consultant for the Pipeline Safety Trust, says: "You've got high diameter and high pressure – guess what? There needs to be more regulation[6]."

While the construction of new gathering lines is a serious issue, it is only a piece of the infrastructure. Transmission lines—several of which have already been permitted—and compressor stations also come with significant risks and long-term impacts to communities and the environment.

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As a critical piece of infrastructure, pipelines serve as useful campaign targets. Construction of the massive Keystone XL pipeline, connecting Canada's Tar Sands oilfields to Texas refineries, was halted, at least temporarily, by a national campaign of civil disobedience. Keystone XL caused such uproar in part because of the crucial role the pipeline plays in the continuation of devastating oil extraction in the Tar Sands.

Similarly, the continuation of fracking in the Marcellus Shale demands the proliferation of pipelines across Pennsylvania and neighboring states. And because pipelines are designed to transport gas to markets, pipeline expansion does not only impact those who have signed leases or live in areas where there is a lot of drilling.

In our outreach and education, we can draw attention to this piece of the Marcellus Shale industrial complex: the scope of fracking goes well beyond contaminated frack water—it stretches across our state.

We should also consider pipeline development tactically; maybe the Keystone XL campaign can serve as a model.

Strategically, one thing is certain: without the infrastructure connecting the site of extraction to markets, industry can't make money. And if the industry can't make money, there is very little point to fracking wells in the first place.

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The federal Environmental Protection Agency (EPA) is also weighing in, having recently issued the first-ever federal air standards for fracked wells and certain associated equipment[7]. While not perfect, the new regulations will result in large reductions of air toxics, methane, and VOCs from this industry.

It's also important to note that the EPA didn't take this action until environmental groups sued them and they were thus ordered to act by the U.S. District Court for the District of Columbia.

Environmental groups made up of ordinary citizens demanded that the agency mandated to protect their health actually act on that mandate—and they won.

That's just one example of why citizen engagement is crucial in safeguarding our clean air. Our work continues on many fronts, with lots of room for your involvement.

GASP helps lead the Marcellus Citizen Stewardship Project, which provides free training on using your sight, hearing, and smell to understand what's going on with wells or other infrastructure in your area, and how to recognize potential problems.

Training includes information on regulations and the permitting process, and how you can have your concerns heard. Our training manual, a presentation, and many other resources are available online[8]. Contact us for more information, and help us keep watch over this industry.

Jamin Bogi can be reached at
412-924-0604 or jamin@gasp-pgh.org

PROTESTING ACT 13 AT THE OFFICES OF PENNSYLVANIA STATE REPRESENTATIVE BRIAN ELLIS. (PHOTO: SHADBUSH COLLECTIVE)

Local Officials Defend Community Rights, Win Partial Repeal of Act 13

An interview with Dave Ball

In February 2012, the Pennsylvania state legislature passed Act 13, in the first major amendment to PA's oil and gas law since 1984. But rather than updating regulations to protect communities from fracking, Act 13 attempted to pave the way for more widespread and unchecked development by requiring that drilling be allowed statewide in all zoning districts.

Shortly after the new law's passage, a group of municipalities sued the state, asserting that this and other provisions in the law were unconstitutional. In a major victory for Pennsylvania communities, on July 26, Commonwealth Court sided with the municipalities in the suit and struck down the zoning requirements in the law.

The day after the decision, the Corbett administration announced it would appeal the ruling to the Pennsylvania Supreme Court (as we go to press the Supreme Court's decision about whether or not to hear the case is still pending).

Act 13 was introduced as a plan to impose an "impact fee" on

that some land use is incompatible with other land use, that there are things you can do in one place that would not be appropriate to do in another place...

By having zoning, zoning allows municipalities to designate where certain compatible uses of land are allowed. This is why we have different types of zoning. We have residential, we have commercial, we have industrial, we have agricultural... If you have a residential area, then all of the uses have to be compatible with residential uses.

Spot zoning is unconstitutional, it says so specifically, that you can't say well here I have a large tract of residential area but I'm gonna take these five acres in the middle of that and call it industrial so I can do something industrial in that area. You can't do that.

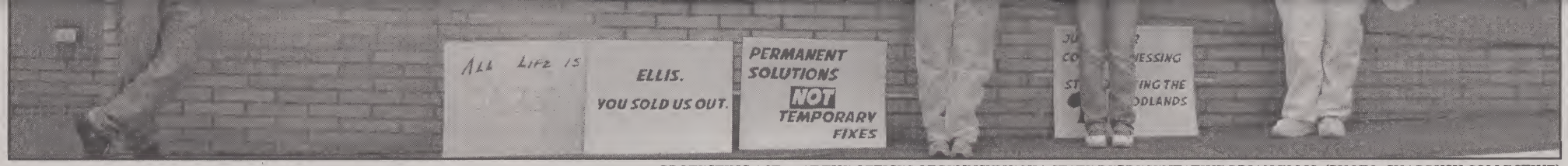
Shalefields Reporter: So why is Act 13 so unprecedented?

points that were put out by the governor's office because the governor was pushing extremely hard for this thing. ...There were three of us primarily—myself, Brian Coppola from Robinson and Andy Schrader from Cecil—who seemed to be doing the most going around and talking to people and going out to Harrisburg and talking to legislators and things like that. I have no idea how many different legislators we talked to and different townships and such.

Shalefields Reporter: And across the political spectrum?

Dave Ball: Oh yeah, both sides of the aisle. It's a bipartisan issue. I mean, Brian and I both happen to be Republicans but Andy Schrader's a Democrat...

I got an impression that the people who were guiding the bill well realized that if it came to an individual decision, if you separated the fees and environment from the zoning, they



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Act 13 was introduced as a plan to impose an "impact fee" on natural gas production, after years of debate about whether and how much to tax the booming industry. It imposes a per-well fee based upon the average price of natural gas. This fee decreases annually for each well. In 2012, drillers will pay $50,000 per well. About 60 percent of the funds are slated for counties and municipalities impacted by fracking while 40 percent will go to state-level infrastructure projects[1].

While these funds will provide some relief to impacted areas, they cannot compensate the permanent losses that many residents are experiencing in devalued properties, contaminated water, and loss of quality of life due to fracking. The fee also amounts to one of the lowest tax rates – less than half of Texas' – levied on the industry by major gas producing states[2].

In addition to the impact fee, Act 13 includes a set of regulations which essentially codify the secrecy and impunity with which the industry already operates. The law allows companies to continue to withhold information about the chemicals they use and prevents healthcare professionals from making such information public when it is disclosed to them in a medical emergency. It allows companies to transport and dispose of the millions of gallons of wastewater produced daily from Marcellus wells without submitting comprehensive reporting on these activities. It also stipulates that DEP inspectors cannot halt drilling operations where violations are occurring. Only the DEP secretary, appointed by the governor, has the authority to order drilling activities to stop[3]. The impact fee and all of these measures remain intact, unaffected by the recent court ruling.

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Shalefields Reporter: So why is Act 13 so unprecedented?

Dave Ball: It's unprecedented because it's written for the benefit of one specific industry and that is at the expense of the citizens of Pennsylvania. By this Act the rights of citizens are subjugated for the convenience of an industry...

It creates a one-size-fits-all zoning law that mandates well-site preparation, construction, drilling, fracturing, pipelines, impoundments and all that be allowed in all zoning districts, which is a big problem...I would love someone to explain to me under the compatible use theory, how a gas drilling operation is compatible, for example, with a residential living area. It's ludicrous.

The way the law is written, we basically can't impose any conditions. If a gas company doesn't like our conditions they can appeal it to the PUC (Public Utility Commission), which is another ridiculous thing, and they are an industry group so you know who they're gonna rule for. Basically they can put anything, anywhere.

And if the PUC finds that you're non-compliant, then you don't receive any of the impact fee money and you're still forced to comply with whatever they say.

The other part of it is, is if they find that our ordinances are not in compliance with the state law then [the gas companies] can go after us in court for damages and lawyers' fees and all kinds of stuff.

Shalefields Reporter: Can you talk about how this could have happened? What does it say about the gas industry's influence in the state legislature?

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Shalefields Reporter: And across the political spectrum?

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I got an impression that the people who were guiding the bill well realized that if it came to an individual decision, if you separated the fees and environment from the zoning, they probably would pass the fees but they would never pass the zoning. So they put it all together so that, 'hey, you want the fees, you gotta pass the whole thing.'

Shalefields Reporter: During that time, there was also a lot of effort among community groups to lobby their legislators against the bill. Were you working very closely with them? What has your relationship been like with these folks?

Dave Ball: There were a large number of groups that were very much opposed to the bill but for different reasons. A number of the groups were pretty much anti-drilling people...

We tried to make it clear to them and to other people that we were not anti-drilling, but we were also grateful for their effort to lobby people to vote 'no' on the bill... To me it was a really great demonstration of what government should be. You know, when people have a cause, no matter what your point of view, you still have a right and obligation to get out and actively pursue it... I thought that was very positive.

Shalefields Reporter: Once the bill passed you and several other local officials filed this lawsuit.

Dave Ball: It became very apparent to us, many of us township supervisors at least, that we were in an absolute no-win situation. We had 120 days, according to the bill, to modify our ordinances to be in compliance with the state act. That's impossible. You can't do it because of the amount of time it

based upon the average price of natural gas. This fee decreases annually for each well. In 2012, drillers will pay $50,000 per well. About 60 percent of the funds are slated for counties and municipalities impacted by fracking while 40 percent will go to state-level infrastructure projects[1].

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Had the zoning restrictions been upheld in court, municipalities would have had to permit drilling operations in all zoning districts, opening up residential districts to heavy industrial activity[1]. The provision attempted to rewrite zoning law entirely to give the oil and gas industry special privileges, which are afforded to no other industry.

Act 13 has been a major flash point in the fracking struggle in Pennsylvania. It has demonstrated the lengths to which the Corbett Administration and PA lawmakers are willing to go for the gas industry, at the expense of the communities that they are supposed to represent. It has triggered a wave of organizing by local officials and grassroots groups, who lobbied hard against the law while it was in the legislature and mounted the successful legal challenge in Commonwealth Court. Prior to the ruling, 67 municipalities across the state voted in support of the suit.

Dave Ball is one of the plaintiffs in the lawsuit. He has been a Councilperson for Peters Township in Washington County for seven years. I spoke with him about Act 13, and the legal challenge to it, prior to the July 26 ruling.

Shalefields Reporter: Hi Dave, thanks for speaking with us. Could you start by just laying out the basics of zoning law to help us understand what Act 13 could mean?

Dave Ball: Zoning restrictions are based upon the recognition benefit of one specific industry and that is at the expense of the citizens of Pennsylvania. By this Act the rights of citizens are subjugated for the convenience of an industry...

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Shalefields Reporter: Can you talk about how this could have happened? What does it say about the gas industry's influence in the state legislature?

Dave Ball: What does it say about the industry? It says to me that the industry very greatly impacted this law. They wrote it, they worked very hard to get it passed. In fact, when we were in court in the hearing for the request by the gas industry and the Senate and the House to intervene, the lawyer for the gas industry stated among his reasons that the gas industry should be allowed to intervene was that 'we have spent a great deal of money to get this bill passed'.

Shalefields Reporter: There was a big meeting in Greentree (just south of Pittsburgh) of municipal officials throughout the region back in December 2011, when HB 1950 (which would become Act 13) was still being debated in Harrisburg. What came out of that?

Dave Ball: We left the meeting with, it wasn't exactly a coherent plan, but what we did walk away with was that we needed to get a lot better organized. We needed to have our solicitors talk to each other and to see where we were with it. And the other thing that came out of it was that we needed a much more concerted effort to make sure we were contacting all of our legislators. And as it turned out we really needed to educate our legislators as to what the bill said. And that was, as it turns out, the biggest problem with this whole bill, was that the legislators as a whole, I don't think ever read it.... Most of them were reading talking zoning. So they put it all together so that, 'hey, you want the fees, you gotta pass the whole thing.'

Shalefields Reporter: During that time, there was also a lot of effort among community groups to lobby their legislators against the bill. Were you working very closely with them? What has your relationship been like with these folks?

Dave Ball: There were a large number of groups that were very much opposed to the bill but for different reasons. A number of the groups were pretty much anti-drilling people...

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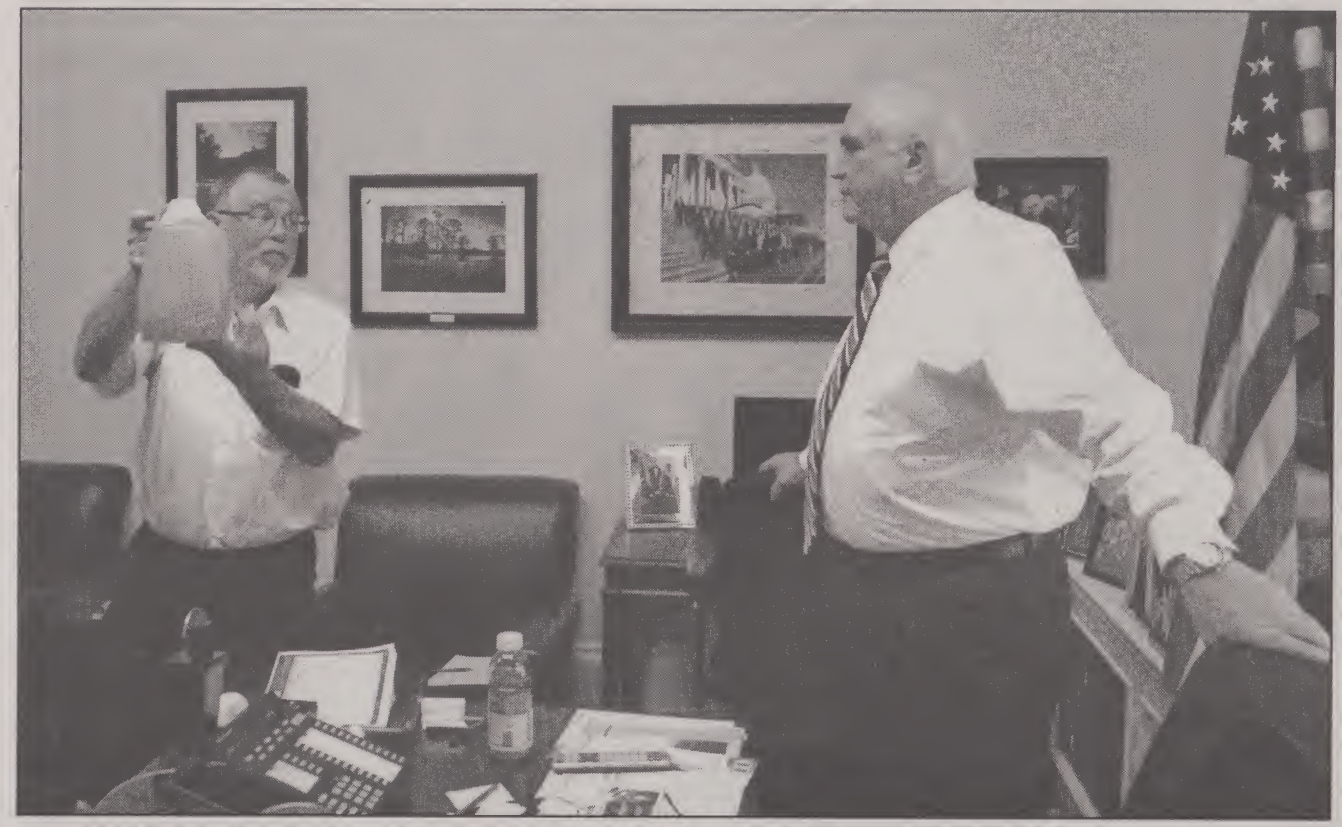
Dave Ball: It became very apparent to us, many of us township supervisors at least, that we were in an absolute no-win situation. We had 120 days, according to the bill, to modify our ordinances to be in compliance with the state act. That's impossible. You can't do it because of the amount of time it takes to review the act, to review your own ordinances, to see what has to be changed, to hold a public hearing...

So what we did at that point was that we went to court and we filed a complaint which was our challenge to the law, but then we filed a request for an injunction saying that if this law is implemented that we will suffer great harm and irreparable damage for the reasons that I just stated...and of course the gas companies and the council for the state argued that, you know, 'there are no problems implementing it and if we have to make some tweaks we'll make some tweaks and you know everything will be hunky dory.' And the judge, he wasn't buying that one, he agreed with us that we would suffer irreparable harm... so he granted an injunction, and that was the first big step.

Endnote

With the pending appeal to the Supreme Court by the Corbett Administration, Ball and his co-plaintiffs will likely have to continue to defend the rights of Pennsylvania's communities in court. If the lower court ruling is overturned, municipalities will be in the "no-win situation" they were in months ago. The fight over Act 13 is far from over, and it has brought into sharp focus what the larger struggle over fracking boils down to in Pennsylvania: the rights of communities to protect their health and safety versus the rights of corporations to turn a profit.



PRESSURE AT THE NATIONAL LEVEL: MICHAEL BADGES-CANNING OF TOUR DE FRACK IN WASHINGTON, D. C. TALKS WITH CONGRESSMAN MIKE KELLY (3RD DISTRICT IN PENNSYLVANIA) ABOUT FRACK WATER DRAWN FROM A WELL IN BUTLER, PA. (PHOTO: TOM JEFFERSON)

Working With Officials in Butler County, PA

By Joseph P. McMurry

In April 2011, I began talking to my local elected officials (Butler Twp., Butler Co.) about the dangers of fracking. I also told my representatives about the community-rights ordinances that places like Pittsburgh had used to ban fracking.

At each township meeting, I would speak of yet another hazard associated with fracking. By July there was some interest in a ban, but the five-member board was split in their opinions on fracking. This divide gave birth to the Butler Twp. Marcellus Shale Advisory Board. The function of the board was to conduct factual research into the pros and cons of shale gas drilling.

As a member of this board, I researched the various municipalities, states and federal governments that had either banned or placed a moratorium on fracking, and I gathered together numerous reports, studies and articles which revealed why they had taken this action. I found an amazing amount of

officials on Mar. 19, 2012. I continue to speak to the same officials about the contents of this report, in an effort to make them as uncomfortable with their lack of action as I am, and perhaps to tip the uneasy balance toward action.

In the meantime, I will have my township report available online in a user-friendly format so as to assist other local citizens working to mount strong arguments for the banning of fracking in the Commonwealth and beyond. Tentatively, the report is titled "How Many Reasons Do You Need Before You Ban Fracking???"; it will be posted on the Marcellus Outreach Butler (MOB) website: marcellusoutreachbutler.org/links-to-more-information.html

I see this report as being an educational resource for informing elected officials and the general public on the many dangers associated with hydraulic fracturing and its attendant processes.

It's Time for Communities to Ban Fracking en Masse

by Braden Crooks

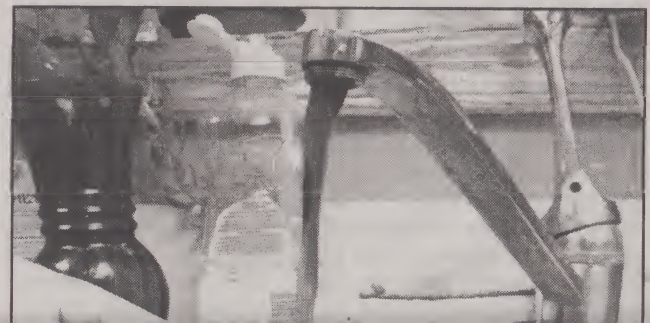
If a community decides that fracking is too dangerous to allow within their borders, and it threatens the right to their health, safety and welfare, then that community has a fundamental right to say "no thanks." But our local self-determination is extremely limited; it is "preempted" by the state, and the unjust influence of corporate and special interests weigh down from higher levels of government. The "right to frack" is protected by law and, we are told, the right for communities to make decisions about it is illegal.

The consequences of fracking—for drinking water, forests, streams, roads, infrastructure, businesses, property values, air and land—all take place on the community scale. This is why communities are kept from making decisions to stop fracking and industries like it. I am confident that if this were different, and corporations could not abuse state preemption of local decision-making to further their most exploitative economic objectives, we wouldn't have a fracking problem.

This realization, first brought to light by the Community Environmental Legal Defense Fund, drove us to enact a Community Bill of Rights in State College, PA, the home of Penn State, and use those rights to ban fracking anyway.

Our community group, Groundswell, worked to enact our Community Bill of Rights and Fracking Ban by popular vote. It won by 72%. This demonstrated that the people want these legitimate rights—like clean air, clean water, and self-determination over a sustainable local energy future—regardless of what the state government and corporate industry claim to be legitimate local action. We think every community should do the same.

Our initiative succeeded because the argument for local enfranchisement and a sustainable future makes common sense. But it also took a smart campaign. I'd like to use the rest of this article to explain as well as I can what led to this successful outcome, and why this daring initiative is the right direction for the anti-fracking movement.



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As a member of this board, I researched the various municipalities, states and federal governments that had either banned or placed a moratorium on fracking, and I gathered together numerous reports, studies and articles which revealed why they had taken this action. I found an amazing amount of material to substantiate and validate a ban on fracking, and by the time 2011 became 2012, new reports on the dangers of fracking were appearing almost daily. My report covered everything from groundwater contamination and toxic air emissions to gas lease-mortgage conflicts and non-disclosure agreements.

And then, in February 2012, Act 13 was passed into law by the Pennsylvania General Assembly. Locally, this ruling had the effect of nullifying the meager zoning protections that Butler Township had passed in 2009 in anticipation of Marcellus Shale development. The passage of this law also dampened all enthusiasm on the part of township officials to enact a ban, even though community-rights ordinances banning fracking are not any more or less legal now than they were prior to this bill's passage.

Nonetheless, I persevered in the compilation, organization and completion of my township report, and I submitted it to my local officials on Mar. 19, 2012. I continue to speak to the same officials about the contents of this report, in an effort to make them as uncomfortable with their lack of action as I am, and perhaps to tip the uneasy balance toward action.

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I see this report as being an educational resource for informing elected officials and the general public on the many dangers associated with hydraulic fracturing and its attendant processes. The digitized document includes no less than 23 separate categories of hazards and issues associated with fracking, as well as links to factual reports, studies and data that illuminate and support the need to ban this process. Thus, you can utilize this resource when writing letters or when speaking out at public meetings on a range of urgent issues, all connected to the damaging effects of fracking.

Included with the report is a companion piece on letter writing and public speaking, for those of you who are not quite yet comfortable with such actions, which will help to identify what aspects of this issue you are most passionate about and to discern what style of writing/speaking is best suited to your personality.

The best way to slow down/reverse/HALT the mad rush of shale-gas drilling that is so damaging to humans and the environment is to have informed officials and an informed populace. It is to this end that I am making this township report public.

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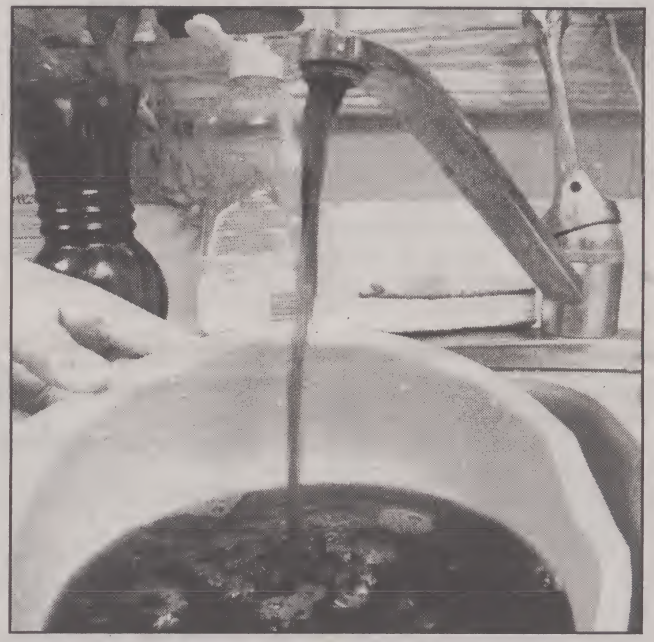

TAPWATER IN BUTLER CO., PENNSYLVANIA. (PHOTO: SHAUN SLIFER)

State College was the right place to for us to start. Awareness and concern about fracking was high already, but there was no active fracking or leases within the dense urban borough of State College. This meant the borough was the place where we could get out ahead of the industry. Now we're teaming up with other communities, armed with precedent and solidarity.

We pulled in elected officials early on. Two weeks before our vote, five of seven borough council members wrote an op-ed asking the people of State College to vote against our initiative, claiming that the Bill of Rights would only cause trouble for the borough. This could have been seriously harmful if not for our courageous mayor and one borough council member who supported the Bill of Rights. Because this law was new and different, we needed at least a few public figures whom people could trust to help legitimize the Bill of Rights in the eyes of skeptical voters.

We kept our message positive. Community and Environmental Rights are about more than banning fracking, they are about taking control over the quality of our local environment and creating a sustainable future. With this vision, we presented a clear choice between the dirty, industrialized fracking economy and the sustainable, thriving local economy we all really want.

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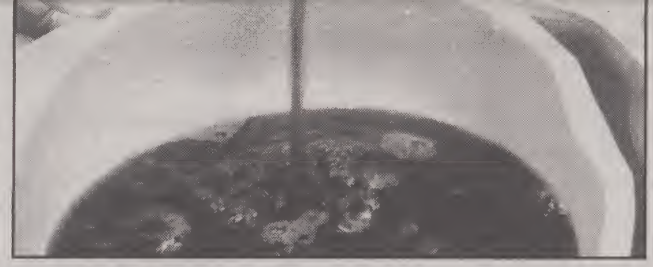

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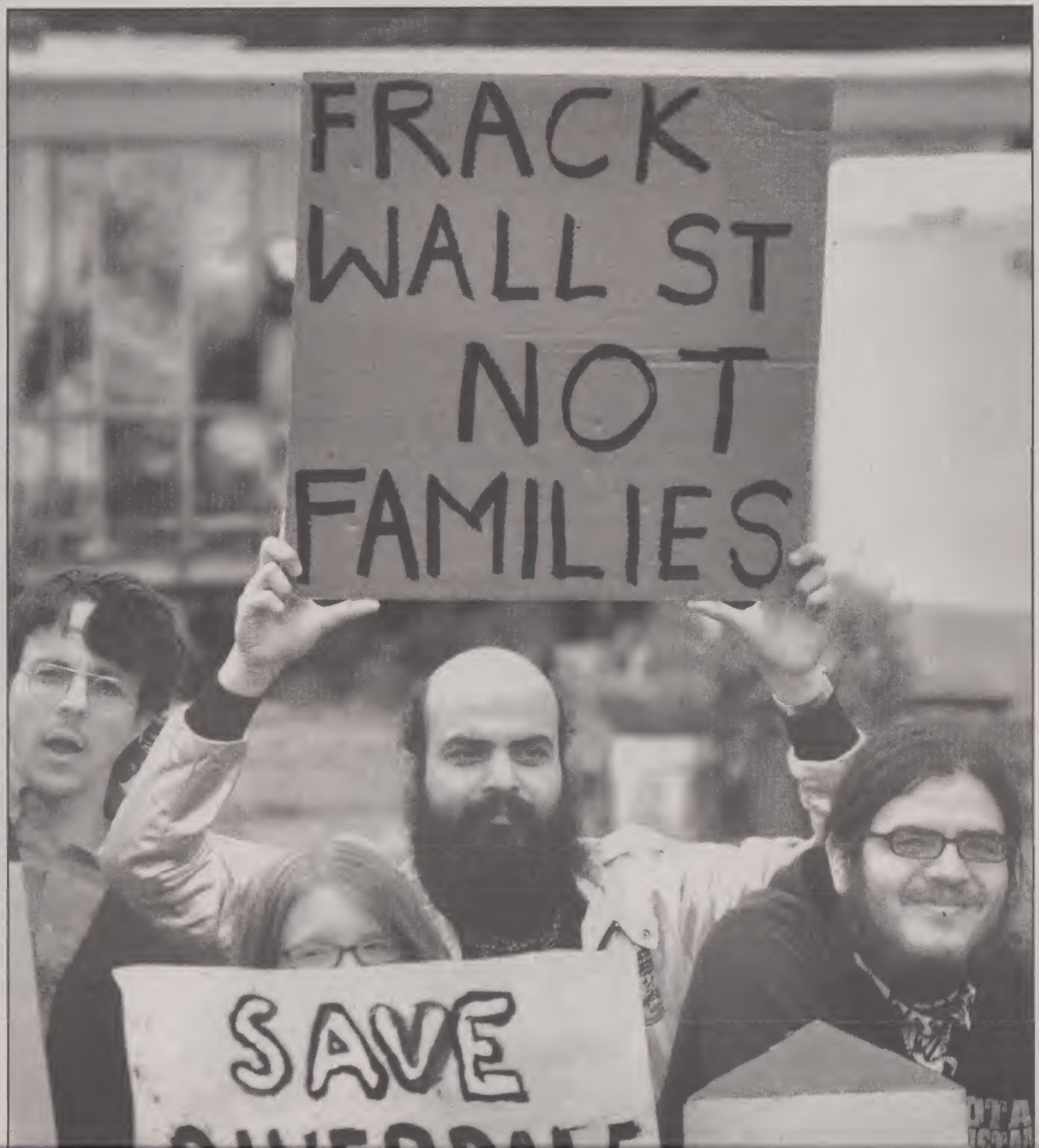
We kept our message positive. Community and Environmental Rights are about more than banning fracking, they are about taking control over the quality of our local environment and creating a sustainable future. With this vision, we presented a clear choice between the dirty, industrialized fracking economy and the sustainable, thriving local economy we all really want. We firmly believe that a world can and will exist with an economy, environment and democracy that thrive together.

The anti-fracking and environmental movements have a vision that is more appealing than the "get rich quick" story being pushed by the industry; let's make it the center of our efforts. We have the right to a sustainable future. If we take responsibility for creating this future together, it will happen. Creating this future, and stopping fracking, will mean doing more than playing by their rules, and having a seat at their table.

It will take systemic change and people willing to challenge existing laws and the people who benefit from those laws. Like the Civil Rights and Woman's Movements, every significant movement in American history inevitably confronts the laws that govern our nation, and redefines what are the rights of the people.

All citizens have the legitimate right and privilege to make their government work for the betterment of themselves and their communities. It is therefore perfectly legitimate to ban fracking in Pennsylvania, or any other state, in the name of our Community and Environmental rights. Itis time all of us take the initiative to do so.

Find out more at groundswell.gs and please contact us at info@groundswell.gs. You'll have a friend and guide in your efforts.



Fighting Toxic Injection Wells in Ohio

By Ohio Fracktion

Millions of gallons of toxic wastewater are produced daily by fracking operations in the Marcellus and Utica shale regions, creating the difficult problem of how to safely dispose of this material. For years the PA Department of Environmental Protection (DEP) permitted the industry to dump this waste directly into Pennsylvania rivers. After mounting evidence of widespread impacts on drinking water, and pressure from environmental groups and the federal Environmental Protection Agency, DEP finally requested that this practice stop last year[1]. Since then, the vast majority of wastewater disposal has been diverted to injection wells in Ohio where it is pumped, untreated, underground.

Only eight injection wells are currently permitted to accept oil and gas waste in Pennsylvania, but permits for more wells are pending[2]. Moreover, illegal dumping undoubtedly remains a common practice in Pennsylvania, where companies are not required by DEP to provide comprehensive reporting on their disposal practices[3]. The following is a report on the struggle against injection wells from our allies in Youngstown, Ohio.

On December 31, 2011, residents of Youngstown and surrounding areas were struck by a magnitude 4.0 earthquake. The tremor was the twelfth to take place since March of 2011 in close proximity to an injection well operated by D&L Energy[4]. In March, the Ohio Division of Natural Resources (ODNR) issued a report linking the earthquakes to the well, which had been receiving up to 5,000 gallons of toxic fracking wastewater "brine" per day[5].

While ODNR ordered five wells in the Youngstown area temporarily shut down in the wake of the 4.0 quake, at least 172 injection wells remain in operation across the state, and ODNR continues to permit new wells[6]. These wells are the depository for fracking waste, and receive countless barrels of brine from across the Marcellus and Utica shale regions. Nearly 90% of Pennsylvania's wastewater in 2011 was injected underground in Ohio[7].

Ohio residents from Youngstown to Athens have expressed outrage at seeing their communities turned into toxic dumping grounds for the natural gas industry. Many injection wells were simply converted from old oil and gas wells, which were not designed to receive massive levels of waste. Injection wells across Ohio have histories of leaks, cracked impoundments, and blowouts, yet the vast majority of these wells remain in operation without any restraint from state regulatory officials. Perhaps this is not surprising, given the massive levels of gas industry money that have permeated Ohio politics at every level, totaling over $2.8 million in contributions to Ohio candidates

RESIDENTS OF RIVERDALE PROTESTING THEIR EVICTION (PHOTO: STANLEY ROGOUSKI/STANLEYROGOUSKI.COM)

Residents of Riverdale fight back to save their homes

By Sara Grozanick

When residents of the Riverdale Mobile Home Park in Jersey Shore, Pennsylvania, found out that they were being evicted from their homes with little notice to make way for the ever-expanding Marcellus Shale gas industry, they refused to go quietly. "We actually read it in the newspaper before we heard anything from the landlord. [...] I think everybody was pretty angry about it—I know I was. It's not something anybody wants to hear: the land gets sold out from under your home. I really can't afford to move. And I'm just tired of getting kicked around by the big corporations," said resident Scott Johnson[1].

The 12 acres that housed the mobile home park along the

murals painted on roofs of abandoned trailers. Fourteen year-old Riverdale resident Alexa helped paint the murals: "If the people (Aqua-PVR) do get their way, when they're ripping up the pads they can see that a bunch of kids had fun, even though they knew their trailer park was getting destroyed. We think it might affect the [...] drillers[1]."

Many of those evicted were challenged to find alternative housing. Rents have been on the rise since the gas boom: landlords are evicting tenants or refusing to renew leases, then raising the rent in order to accommodate and profit from the influx of new gas workers to the area. Ironically, several of the Riverdale residents themselves worked for the industry as

and gas waste in Pennsylvania, but permits for more wells are pending[2]. Moreover, illegal dumping undoubtedly remains a common practice in Pennsylvania, where companies are not required by DEP to provide comprehensive reporting on their disposal practices[3]. The following is a report on the struggle against injection wells from our allies in Youngstown, Ohio.

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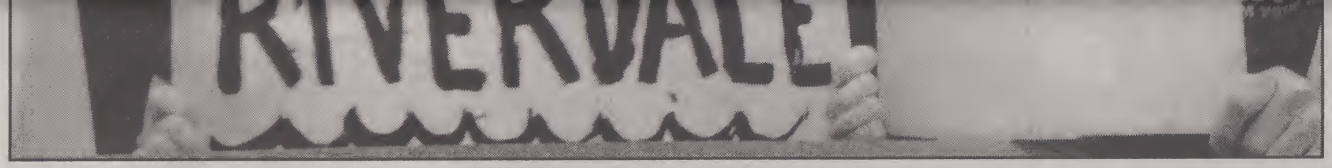
Beyond refusing to regulate these wells, ODNR has blatantly ignored numerous resident requests to test the toxic, radioactive materials. As a result of ODNR's failings, a group of Ohio residents recently took it upon themselves to gather brine samples from an open pit injection pool for testing. The results of this testing revealed high levels of arsenic, barium, toluene, alpha particles, and diesel particles among other contaminants—nearly 300,000 times federal drinking water standards[9].

In the face of these dangers, Ohioans have taken bold steps to shut down these toxic injection wells, which threaten the health and safety of our communities. Last November, seven residents blockaded the entrance to D&L's earthquake-causing injection well in Youngstown, temporarily shutting down the well a full month before ODNR finally stepped in to do its job. And in July, a resident locked himself to the gate of an injection well in Trumbull County, stopping operations about five miles from the site of a 1,000 gallon brine spill that had occurred a week before.

With millions of gallons produced each day and no safe way of disposing of it, wastewater is, as scientist-activist Sandra Steingraber puts it, the "Achilles heel" of the gas industry10 . A successful campaign against underground injection in Ohio could drastically impair fracking operations across the Marcellus and Utica shale regions. Help us build this campaign.

For more information, visit ohiofracktion.com and if you



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The 12 acres that housed the mobile home park along the Susquehanna River was home to 32 families before a joint venture between Aqua America and Penn Virginia Resources (Aqua-PVR) purchased the land from the park's landlord. The companies plan to construct a water-pumping station that will draw water from the Susquehanna, connecting to a 36-mile pipeline to transport the water to fracking operations in north-central Pennsylvania.

With seemingly no other options, many families accepted Aqua-PVR's meager offer and abandoned their homes, scrapping whatever they could off their trailers. But a handful of residents decided to organize against eviction and reached out to local anti-fracking organizers for support. What began as a few families quickly expanded. On May 31st, around 50 supporters established an encampment to physically block Aqua-PVR contractors from beginning construction. From across Pennsylvania, Ohio, and New York, volunteers travelled to Riverdale to lend support and solidarity.

For nearly two weeks the encampment at Riverdale delayed construction, winning further negotiations with the company for the remaining residents. "Just us showing up and saying we were going to hold the space was enough to force a negotiation with them," one supporter explained[1]. During that time residents and volunteers worked side-by-side to maintain the community and tell their story. They cleaned up debris left from those who had evacuated, kept up their gardens and mowed the grass. They created an outdoor kitchen and cooked community meals with the donations of food from local supporters. And they lined the highway adjacent to the park with signs and murals painted on roofs of abandoned trailers. Fourteen year-old Riverdale resident Alexa helped paint the murals: "If the people (Aqua-PVR) do get their way, when they're ripping up the pads they can see that a bunch of kids had fun, even though they knew their trailer park was getting destroyed. We think it might affect the [...] drillers[1]."

Many of those evicted were challenged to find alternative housing. Rents have been on the rise since the gas boom: landlords are evicting tenants or refusing to renew leases, then raising the rent in order to accommodate and profit from the influx of new gas workers to the area. Ironically, several of the Riverdale residents themselves worked for the industry as truck drivers hauling water—workers who will face decreased employment opportunities after the water pipeline is built.

When Aqua-PVR's contractors did finally show up, backed by the Pennsylvania state police, the volunteers barricaded the entrances to the park and prepared to hold off the eviction until they were physically removed. As the state troopers moved in to make arrests, residents called on their supporters to stand down, fearing for their safety and not wanting to jeopardize the negotiations they had already won. "There will be other days when you'll need to risk more, fight harder," said one resident, "but today is not that day. Take care of yourselves and know how much we have appreciated your support[2]."

Though ultimately the eviction was completed, those residents who stayed behind to fight did win better compensation, and they showed the power a community can have when it comes together.

As they left Riverdale, the volunteers sang the union rallying cry that continues to echo in the ongoing organizing and actions of those working to resist fracking and the corporate control of communities:

Solidarity forever
Solidarity forever
Solidarity forever
The struggle makes us strong

and parties since 2001[8].

Beyond refusing to regulate these wells, ODNR has blatantly ignored numerous resident requests to test the toxic, radioactive materials. As a result of ODNR's failings, a group of Ohio residents recently took it upon themselves to gather brine samples from an open pit injection pool for testing. The results of this testing revealed high levels of arsenic, barium, toluene, alpha particles, and diesel particles among other contaminants—nearly 300,000 times federal drinking water standards[9].

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For more information, visit ohiofracktion.com and if you are able to contribute to future resident-initiated brine-testing efforts, please email ohiofracktion@gmail.com.

AN ANTI-FRACKING PROTEST IN WASHINGTON, D.C. (PHOTO: TOM JEFFERSON)

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COMMUNITIES TAKING ACTION

Direct Action Supports Resource Extraction Communities

By Cathy with RAMPS

Resource extraction is ravaging our communities across the country. From the BP oil spill in the Gulf of Mexico to old growth logging in the Pacific Northwest, from blowing up the mountains of Appalachia to gas drilling in the Marcellus shale, America's natural beauty is being sold for private profit. I work with Radical Action for Mountain People's Survival (RAMPS), a direct action campaign based in the coalfields of southern West Virginia working to stop mountain top removal (MTR) coal mining. Direct action is but one of a variety of tactics that the campaign against MTR employs in order to bring attention to the destruction taking place in Appalachia.

RAMPS engages in nonviolent direct action as a way to use political, economic or social influence to force those in power to change[1]. Nonviolent direct action can involve tactics which are against the law, such as tree-sits, road blockades and office occupations. Activists engage in these tactics because they feel that allowing the power infrastructure to continue to exploit our communities and poison our water is a critical issue that cannot wait for legal remedies. Moreover, regulations have repeatedly proven to be hollow "remedies" in the past. The consequences of breaking the law pale in comparison to the consequences we face if we sit idly by and allow the destruction.

Direct action brings public attention to struggles against resource extraction. In many instances there are legal cases against a company, but since these are not very eye-catching they often do not draw the attention of media outlets. Since the mainstream media tends to focus on confrontation, direct action can attract media coverage and thus, help garner public support for the legal aspects of these campaigns.

Direct action can also be used as a tool in negotiations. At times corporations engage impacted citizens in discussions about how the company can exist in harmony with neighbors. These talks may yield some small successes for people who have to live with resource extraction in their backyard, but often talks break down, are unproductive, or companies do not follow through on neighborly promises. Using direct action provides a physical demonstration that the concerns of these people cannot be ignored. If a company is not willing to negotiate in good faith with local residents, then direct action allies will assist the local residents in shutting down resource extraction activities. This puts pressure on negotiations and draws attention to the fact that the company is not living up to its public relations image. Sometimes negotiations occur while direct action is ongoing, such as during the thirty-day tree sit on Coal River Mountain in the summer of 2011[2].

Activists willing to risk arrest can also expand the support base

(PHOTO: TOM JEFFERSON)

Tour de Frack aims to "move" the fracking debate forward

By Jason Bell and the Shadbush Collective

Western Pennsylvania used to be synonymous with cool sweet water creeks for kayaking, local ponds for fishing, and slow winding roads for bicycle rides. What was once described as an outdoor enthusiast's dream, now has a new name: shale fields. With this new demarcation comes promises from the gas industry of jobs, environmental stewardship and sensitivity to the community. More often than not, what we see are industrial accidents, snarling traffic, fractured communities, and an erasure of our outdoor heritage.

An organization, Tour de Frack (Freedom Ride for Awareness and Community Knowledge) calls attention to the changing landscape in Butler County. As organizer Jason Bell of Evans City explains it, "our movement is based on an understanding that we will never be able to outspend the oil and gas PR machine, but that we don't have to." By using grassroots organizing, the powerful voices of ordinary citizens, and creative media, the savvy TDF delivers a genuine message to the public and aims to reframe the conversation by bringing it down to the human level. Many have called TDF "activation in motion," others a "rally on wheels" or a "traveling freedom show."

The idea was simple and compelling: a two-week bike tour from Butler, PA to Washington D.C. supporting local businesses and organizations along the way. Stops included Pittsburgh, PA; Ohiopyle, PA; Cumberland, MD; and Hedgesville, WV. "We were constantly energized by the groups we met with and press we got. We had only positive interactions," said Bell.

Traveling to DC by bicycle may be less intrusive on the

And their creativity and passion paid off.

The majority of the ride followed the Great Allegheny Passage and the C&O Tow Path ending with The Stop the Frack Attack rally on the National Mall in DC on July 28, 2012. This event was organized by several national groups and brought activists from around the country. While in D.C. TDF members met with Pennsylvania House and Senate members, delivering personal stories and hand-signed signatures on a petition. They targeted Mike Kelley, the House Representative for Connequenessing, who agreed to meet with his constituents whose water has gone bad since the commencement of drilling in their neighborhood, The Woodlands. There was also the opportunity to share stories of impacted communities with Heather Zachal, Deputy Assistant to the President for Climate and Energy.

Speaking to those in political power was an important experience, and the riders continued to focus on telling the story of people who have experienced devastating impacts from shale gas drilling in their homes. As they rode they handed out copies of a self-published book entitled Stories From the Shalefields. This text featured twenty personal narratives focusing mainly on Western Pennsylvania but stretching to West Virginia and Ohio as well. They also took the opportunity to do other creative forms of outreach, such as presenting a thank you card to the Council of the Connellsville PA town board for signing onto the lawsuit against ACT 13. (See Local officials defend community rights, win partial repeal of Act 13)

Jason Bell summed up the experience: "When movements take place for a while they tend turn inwards, but sometimes we

wait for legal remedies. Moreover, regulations have repeatedly proven to be hollow "remedies" in the past. The consequences of breaking the law pale in comparison to the consequences we face if we sit idly by and allow the destruction.

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Activists willing to risk arrest can also expand the support base of a campaign. Mountain Justice Summer (www.mountainjustice.org) is an activist training camp that takes place annually in Appalachia. This camp trains participants in many aspects of the struggle against MTR, and often culminates in direct actions. Outside activists were first invited to Appalachia to take part in the resistance in 2005, which was the first time direct action tactics were used in the movement.

In May 2005, Mountain Justice activists joined with community activists in the Coal River Valley, WV, in a demonstration outside Marsh Fork Elementary School. This school is located within a stone's throw of a coal silo and precariously underneath a multi-million gallon coal slurry impoundment. The local campaign around the health and safety of the students was growing, and as numbers swelled with the support of the Mountain Justice activists, community members decided to take their concerns directly to Massey Energy by bringing a list of demands across the bridge to their Goals plant next door to the school. The company had no interest in negotiating with the community, as the WV Department of Environmental Protection (DEP) had ruled that the air and water quality of the school was sufficient. State police guarded the bridge, and sixteen people were arrested[3].

This escalation was a turning point in the movement, resulting in larger environmental organizations taking notice, which in turn contributed to an influx of outside support and brought the struggle against MTR to the national dialogue. This winter, children in the Coal River Valley will be transferred to the new Marsh Fork Elementary School, which is a safe distance away from the coal prep plant and the slurry dam. Direct action was one of a variety of tactics in the campaign for a new school.

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Traveling to DC by bicycle may be less intrusive on the environment than driving but that isn't why the group chose the bike. As Jason explained, "traveling by bike has connected us to this place in a way that no other mode of transportation could. We saw people, land, and even the passage of time from a new perspective. This is exactly what the discussion surrounding shale gas needs, a new starting point."

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Jason Bell summed up the experience: "When movements take place for a while they tend turn inwards, but sometimes we just got to get out there and be visible. Most of the folks we were riding for couldn't be there themselves because their lives have been so compromised by this industry. So we wanted to be out there for them sharing the story."

To get the full report on the ride visit tourdefrack.org

A Farm Forever Inviolate of Corporate Control and Fracking

By Stephen Cleghorn

On May 10, 2012 at my organic farm in Jefferson County, taking as inspiration words from our nation's Declaration of Independence, I acted to throw off the corporate oppression, backed by political cronyism and corruption, which is bearing down on my farm and threatening its survival. During a press conference billed as "Declaring a Farm Forever Inviolate of Shale Gas Drilling," I declared – no matter what established law may say – that my farm shall never be violated from above or below by unconventional shale gas drilling.

I was joined by more than 40 activists from all over Pennsylvania who are fighting shale gas extraction. In addition, Aaron Mair from the Board of Directors of the National Sierra Club came all the way from Albany, New York to represent the Club and speak in support of my action to protect my farm's living communities from fracking. Ben Price of the Community Environmental Legal Defense fund spoke of communities rising up to ban fracking on the basis of the Rights of Nature.

Iris Marie Bloom of Protecting Our Waters introduced a report called "The Harmed, the Sickened, the Dead and the Disappeared," containing more than 200 reports of people and animals sickened or killed by proximity to shale gas extraction.

the surface and below this farm that no gas drill will ever penetrate. Come, be with us now, Dr. Lucinda Hart-Gonzalez."

To which the people responded with *¡Presente!*

I acted in the spirit of the founders of this nation who proclaimed in our Declaration of Independence that "the Laws of Nature and Nature's God" entitled them to throw off the oppression of the British Crown.

There is an increasing collusion between corporate power and the governmental powers of the United States of America, Pennsylvania and other states. We are losing our democracy. Seeing energy companies dictate laws such as the recently passed Act 13, I now understand better what our nation's founders discovered in trying to negotiate with the British Crown. There has come a time when negotiation is capitulation, when our petitioning for redress "in the most humble terms" has failed, when our "repeated Petitions" are being "answered only by repeated injury."

Our political leaders, beholden to corporations to fund their campaigns, refuse to lead us out of a fossil fuel era that is warming our planet. The environment is becoming more and more toxic.

Appalachia. This camp trains participants in many aspects of the struggle against MTR, and often culminates in direct actions. Outside activists were first invited to Appalachia to take part in the resistance in 2005, which was the first time direct action tactics were used in the movement.

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RAMPS uses its unique position in the community to support allies with whom we consult prior to undertaking actions. Our direct action campaign is predominantly made up of "outsiders," or people who are not from Appalachia but are living in the area and working in solidarity to support communities who are fighting MTR at home. Activists from RAMPS are able to fill a niche in the movement that many local people are not in a position to do. West Virginia has been dominated politically and economically by the coal industry for over a hundred years, and many local residents are unable to speak out or take action without fear of repercussions. While local people are often quietly supportive of direct action, many cannot physically walk onto mine sites with us. There are some local people who do risk arrest, while others are plaintiffs in lawsuits, make complaints to the state regulators, or are active in negotiations. RAMPS consults with local people in affected areas to determine where direct action can be used the most effectively, and where there is local support for using this tactic. We also aim to provide training to as many people as possible so that they can use these skills in their own organizing.

One of the major reasons resource extraction continues to happen is because it is done out of the public eye. In remote locations, communities are poisoned and destroyed. Corporate greed is inherently insatiable, and its collateral destruction will not stop because people are sick. Direct action forces these issues into public view, bringing media attention while inspiring local people who often feel like they are alone facing corporate power.

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A Farm Forever Inviolate of Corporate Control and Fracking

By Stephen Cleghorn

On May 10, 2012 at my organic farm in Jefferson County, taking as inspiration words from our nation's Declaration of Independence, I acted to throw off the corporate oppression, backed by political cronyism and corruption, which is bearing down on my farm and threatening its survival. During a press conference billed as "Declaring a Farm Forever Inviolate of Shale Gas Drilling," I declared – no matter what established law may say – that my farm shall never be violated from above or below by unconventional shale gas drilling.

I was joined by more than 40 activists from all over Pennsylvania who are fighting shale gas extraction. In addition, Aaron Mair from the Board of Directors of the National Sierra Club came all the way from Albany, New York to represent the Club and speak in support of my action to protect my farm's living communities from fracking. Ben Price of the Community Environmental Legal Defense fund spoke of communities rising up to ban fracking on the basis of the Rights of Nature.

Iris Marie Bloom of Protecting Our Waters introduced a report called "The Harmed, the Sickened, the Dead and the Disappeared," containing more than 200 reports of people and animals sickened or killed by proximity to shale gas extraction. That report, compiled by Jenny Lisak of the Pennsylvania Alliance for Clean Water and Air, now has over 300 cases and can be accessed at: http://pennsylvaniaallianceforcleanwaterandair.wordpress.com/the-list

Those gathered on that day braved a driving cold spring rain as we ascended the hill to the top pasture of my farm to hold the press conference and release some of the ashes from my late wife, Dr. Lucinda Hart-González, who died of lung cancer in November 2011.

Through the opening speeches the wind swirled and the rain soaked the speakers who stepped forward as Briget Shields from Pittsburgh conducted the press conference. When my turn came to speak the skies were still weeping, but as I moved through my speech the heavens cleared. Under a blue sky I began reading Wendell Berry's poem "Look Out" with its prophetic words "they sell the water and air of life to buy fire" as though he was writing specifically of the frackers. Then, invoking Lucinda's name, I asked the people gathered to join me in calling her spirit into the moment so that her legacy of building this farm for future generations would not be destroyed. As I let her ashes fall from my hand I offered this final invocation:

"May she who was tender and loving of me – made dust and distant from me by cancerous death – come now in these ashes to declare this farm forever inviolate of shale gas drilling or any other attack upon it as a living system. Here now she declares a new right of love on the surface and below this farm that no gas drill will ever penetrate. Come, be with us now, Dr. Lucinda Hart-Gonzalez."

To which the people responded with *¡Presente!*

I acted in the spirit of the founders of this nation who proclaimed in our Declaration of Independence that "the Laws of Nature and Nature's God" entitled them to throw off the oppression of the British Crown.

There is an increasing collusion between corporate power and the governmental powers of the United States of America, Pennsylvania and other states. We are losing our democracy. Seeing energy companies dictate laws such as the recently passed Act 13, I now understand better what our nation's founders discovered in trying to negotiate with the British Crown. There has come a time when negotiation is capitulation, when our petitioning for redress "in the most humble terms" has failed, when our "repeated Petitions" are being "answered only by repeated injury."

Our political leaders, beholden to corporations to fund their campaigns, refuse to lead us out of a fossil fuel era that is warming our planet. The environment is becoming more and more toxic. Species are disappearing by the hundreds annually and many of our own human kind are finding themselves dealing more and more with the calamities of climate change.

Act 13 codifies injuries against our democracy and our earth itself. It was an outright victory for the "Shale Army" of which one energy executive boasted: "The shale army has arrived. Resistance is futile." But resistance is not futile. The "shale army" will find that out soon enough, after we have taken more losses at their hands, to be sure, but soon enough. Resistance can be liberating. It is also a little scary, of course. That is why our Declaration of Independence ends on a somber note that appeals "to the Supreme Judge of the world for the rectitude of our intentions" and comes to a close with these words: "And for the support of this Declaration, with a firm reliance on the protection of Divine Providence, we mutually pledge to each other our Lives, our Fortunes, and our sacred Honor."

May 10th was that for me. My life. My fortune. My sacred honor. Maybe even my liberty as things play out. All pledged to Nature and to my fellow human beings who are part of Nature, God's Nature. I am putting it all into this fight, risking it all without any assurance of victory.

We need a new paradigm for how we live on this Earth. Our individual acts of resistance must be part of an ongoing organization to create a foundation of law based on the Rights of Nature.

Community Power for the Long Haul

By Andrew Munn

I'm an organizer in Fayette County, West Virginia. Fayette County sits atop both the coal of the Appalachian Basin and the gas of the Marcellus Shale. With local residents and the Ohio Valley Environmental Coalition, I organize resistance to the expansion of mountaintop removal coal mining in Fayette County and grow the movement for justice in Appalachia.

A little over a mile from my home, Frasure Creek Coal Company is attempting to triple the area of its active 1,000 acre mountaintop removal site. In Nicholas County, directly to the north, Chesapeake Energy is paving drill pads at a quickening rate. After 100 years of mining in these mountains with the coal industry scraping what coal is left, we can hear the gas industry crowning itself the new energy overlords of Appalachia.

The ascendancy of fracking is an informative moment for people seeking to end the abuse of communities and ecosystems by fossil fuel industries. It re-teaches us two basic tenets of industrial capitalism. First, private industry will consistently act without regard for the health or well-being of communities and ecosystems. Second, government power will be used to uphold the interests of industry over everyday people. This article attempts to begin a conversation to develop strategies based on these difficult realities, strategies that transfer power from corporations to communities and democratic institutions without relying on government power to enact this transfer.

These strategies would be a break from those pursued by the mainstream environmental movement. While Chesapeake Energy and friends were busy buying up and leasing land and mineral rights, national environmental organizations were mounting an advocacy campaign against climate change, against dirty energy, and for renewable energy. While the movement has employed tactics ranging from lobbying to teach-ins to nonviolent civil disobedience, the majority of tactics boil down to an effort to mobilize the power of governments to protect the interests of everyday people over corporate and energy industry interests. These strategies rest on optimistic assumptions of government power and a partial view of its historical uses.

Since the land that now forms the United States was taken from the indigenous peoples of North America, the government has acted to facilitate and legitimize extractive industries that form the material basis of the industrial economy. The Homestead Act, initially intended to provide settler families with agricultural land on which to live self-sufficiently, transferred vast tracts of land onto the ledger books of early industrialists and prospectors[1]. The government granted railroad companies land from sea to shining sea to create an efficient network for the transport of timber, coal, salt, labor and other resources throughout the nation. State and federal governments responded to the rise of contemporary

Drilling for Money—A Look at the Investors Behind the Marcellus Shale Boom, and What We Can Do to Stop Them

By Patrick Young

Over the past several years, energy companies have been swarming to Upstate New York, Pennsylvania, West Virginia and Ohio to stake their claims in the Marcellus Shale gas play. Local newspapers are plastered with stories about how much money there is to be made in gas drilling and many of the major drilling companies have become household names around the region—Chesapeake Energy, Range Resources, and Cabot Oil and Gas. But very few people are talking about the investors who will be raking in billions from gas drilling.

Who are the investors behind the Marcellus Shale gas boom?

Last fall, the Shadbush Collective released a report, "Drilling for Money," looking into the largest investors in the Marcellus Shale. We learned that the biggest, most powerful investors are a small handful of very influential investment firms with billions invested in the gas companies.

Top Investors in Marcellus Shale Drilling

Firm	Location	Number of Drilling Companies Invested In	Approximate Amount Invested in Gas Companies
BlackRock Inc.	New York, NY	11	$35.5 billion
T. Rowe Price Associates	Baltimore, MD	5	$3.5 billion
Wellington Management Company	Boston, MA	3	$1.9 billion
The Vanguard	Valley Forge, PA	4	$1.4 billion

None of these companies own any one of the gas companies outright, but they each hold significant chunks of stock in several different companies. BlackRock, by far the largest investor in the Marcellus Shale, doesn't own more than 15% of any single company, but is a major player in 11 different drilling companies with more than $35 billion invested in oil and gas companies.

The major shareholders in the drilling companies are big, they're powerful, and they're politically connected. They've set themselves up to be insulated from the communities they profit off of—they have no branches for us to picket, they have no brand or public image to be tarnished, and they don't sell us anything that we can boycott. But they aren't completely out of reach.

Unleashing the Power of Pension Funds and Endowments

us are connected to institutions that do have that kind of financial power. Our labor unions hire these companies to manage pension funds and our universities contract with these companies to invest their endowments. Students and workers can push university administrators and union officials to move investments away from companies like BlackRock. Even those of us who aren't connected to major institutions can pressure city, county, and municipal pension boards to move money away from these gas drillers and their supporters. Already several of these public institutions are springing into action, raising concerns with fracking through shareholder resolutions calling on companies to disclose more data on the risks of fracking.*

Holding PNC Accountable for BlackRock's Bad Behavior

While PNC isn't a major direct investor in the gas industry, the company is still the largest single owner of BlackRock. PNC is headquartered in Pittsburgh and this bank shouldn't get a free pass from anti-fracking activists. PNC customers can close their accounts and we can all drop in on the company's hundreds of branches or their Pittsburgh Headquarters to shame them for their role in the gas drilling industry.

Find Them on Their Own Turf

BlackRock and T. Rowe Price are publicly traded companies and hold stockholder meetings every year. These events are a great venue for confronting investors about what they're doing to our communities. In Pittsburgh this spring, anti-fracking activists dropped in on gas giant EQT's shareholder meeting, taking the public spotlight away from the company's huge profits and putting it directly on the health risks of gas drilling in the Marcellus Shale.

This very small handful of financial institutions is poised to make a whole lot of money off of drilling in the Marcellus Shale. They're trying as hard as they can to separate themselves from the dirty work that Chesapeake, Range Resources and the other drilling companies are doing in our communities. But in reality they have the least to lose and the most to gain from gas drilling in the Marcellus Shale. Holding these financial institutions accountable is an important piece of the strategy to protect our land and our communities.

**For more information on the major investors in the gas drilling boom, please check out the full report—Drilling for Money—online at ShadbushCollective.org.*

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Another assumption of most national environmental campaigns is that the arc of history is bending towards a sustainable industrial society, and their advocacy is catalyzing its arrival. This assumption is most apparent in rhetoric describing the 21st century as a time of green technological innovation blazing the path "forward." This idea of the future paints industrial processes such as mountaintop removal, fracking, and tar sands, as counter to the natural flow of history towards a brighter tomorrow. A more grounded understanding of these new forms of resource extraction is that they are logical results of industrial capitalism's expansion and clear signs of today's major historical forces. Climate change, population growth, and the depletion of natural resources set the stage for an increasingly unstable global (i.e., all locales) economy and society. Rather than imagining an apocalyptic moment of societal collapse or pseudo utopian green future, we should understand the coming years as the early phase in centuries of instability as industrial capitalism and nation-states crumble under their own weight.

In the face of this crisis, what strategies will account for increasing instability, support the ability of everyday people

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Call It What It Is: Tips for Tipping the Balance of Public Opinion

By Lance Jeffries

This language, which is also found in TV, radio, internet, and billboard advertising, was developed by the oil and gas industry's highly-paid public relations firms to put a positive "spin" on gas extraction activities.

The linguist and author George Lakoff has noted that such language, crafted to appeal to people's beliefs, is persuasive even when it is not true[1].

The Solution

To cut through the lies and the spin, and to be convincing with family, friends, co-workers and neighbors, we must construct our own effective language. Most importantly, we must understand that to communicate with others, facts are not enough – our words must be memorable and easily understood.

In addition, psychology tells us that people are not interested in our facts until they can relate to our values. Otherwise, our arguments fall on deaf ears. Examples of these widely-held values are "community", "local rights", "long-term sustainability", and

Protection Agency. While these agencies set and, in a few cases, enforce pollution limits, their primary effect is to create a legitimate legal framework within which industrial processes are allowed to proceed. As long as the fossil fuel industrieshold such immense political and economic power, the government can be expected to uphold their interests over those of the communities threatened by their actions.

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In the face of this crisis, what strategies will account for increasing instability, support the ability of everyday people to meet our needs and the needs of our neighbors, and when possible make the government responsive to our needs?

Perhaps there is a quiet strategy, one that begins to identify the assets of everyday people – the land we own and the skills we possess – and finds means of protecting them in perpetuity from the exploits of industry as we build our own capacity for material self-sufficiency. Advocacy shouldn't be abandoned. The protections governments can grant do make a meaningful difference in people's lives. But, the boisterous conflicts of traditional activism may not always be the best means of transferring ownership of resources to local communities. In remote areas, squatting federal or corporate property with no media fanfare and cultivating food may be the sensible course of action. In areas where urban water supplies are threatened by fracking, urban-rural cooperative efforts to purchase land and mineral rights could effectively stave off gas development while securing land for sustainable use. It must be a multi-faceted approach to securing that which we still have and regaining control of that which we have lost. It will unfold over the course of generations.

As long as we are under the illusion of benevolent governance or expect a future industrial society to be sustainable, we will be incapable of effective action. This article is intended to be a starting point for conversation, and hopefully collaboration, for as our faith in the powers-that-be diminishes, our faith, trust, and investment in one another must grow.

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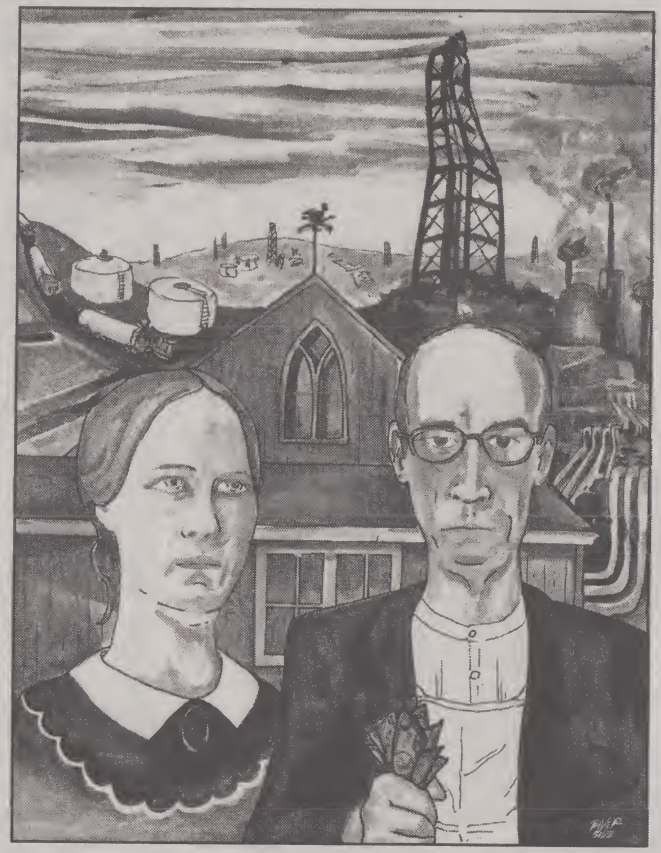

"AMERICAN GASLAND" BY RIVER SIDE/MARCELLUS OUTREACH BUTLER

The Problem

As we know, hydraulic fracturing has the potential to generate big profits for the corporations who drill and frack the land. At the local level, however, community rights have been violated, natural resources polluted, and many people have been harmed physically and economically.

As we speak with people about hydro-fracking, we often hear them using positive-sounding words such as "Marcellus development", "gas production",and "energy exploration" to describe these harmful practices.

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In addition, psychology tells us that people are not interested in our facts until they can relate to our values. Otherwise, our arguments fall on deaf ears. Examples of these widely-held values are "community", "local rights", "long-term sustainability", and "quality of life."

We must also work to re-frame the entire industrial process that poses such a danger to our state and region. Let's be bold enough to call it what it is: "toxic fracking", "dangerous pipelines", "industrial sites", and to say what it does: "Fracking makes people sick."

It's important to note that this language does not lie; it's not misleading, disingenuous, or even "spin." The fracking process does make people sick, a well pad is an industrial site, these uninspected and unmonitored pipelines are dangerous, and we should use energy alternatives that would create long-term sustainability, real energy independence, and preserve our quality of life.

We just need to work on getting these truths into our public discourse.

For More Information...

The corporations that want to fracture our land and our communities alike are thinking strategically and planning for the long term. Can we do the same?

To learn more about how to use language that is true, that is convincing, and that asserts our values for a clean and sustainable future, click on the "Resources" link on marcellusprotest.org to find our Strategic Messaging Toolkit.

Renewable Energy: a power shift in more ways than one

By Jessica McPherson

One of the major arguments for shale gas drilling is that it provides an abundant supply of energy in our home territory. Many people worry that the alternatives are worse: dependence on foreign sources of energy, or energy shortages. However, research on renewable sources like solar, wind, and geothermal energy shows that these sustainable energy alternatives can meet our needs instead[3, 7, 8]. Renewable energy infrastructure is an opportunity for economic revitalization in our region. It is also an opportunity to shift not just where our power comes from, but who owns and profits from it.

First of all, our national energy consumption includes a lot of waste[4, 5]. Many other developed nations – including Japan, Germany, Great Britain, and Israel – maintain a high standard of living while using only half the energy per person that we use in the United States[9]. Simply bringing more efficient technologies into broader use can make many gains. For example, slightly less than one third of our national energy usage goes to transportation; if vehicle fuel efficiency doubled, this usage would be cut in half.

Other major sources of energy waste are heat losses during electricity generation at coal power plants, and losses during transmission in the electric grid; a whopping 68% of all energy generated for electricity is lost as waste[4, 5]. If more energy was produced locally through small sources of renewable energy, much of these losses in production at large plants and transport through the grid could be saved.

Renewable sources such as wind, solar, geothermal, and small hydropower have tremendous potential. They are not theoretical or unproven technologies; a number of detailed reports explain how existing renewable technologies can meet our energy needs.

Why, despite its potential, has renewable energy not advanced further? It is a question of social policies and priorities, not of technological limitations. The fossil fuel industries currently exert a large influence on state and national policy through corporate campaign contributions[10]. The shale gas drilling industry began with a very crude technology that has been refined for greater efficiency and developed some pollution curbs slowly over several decades. Those safeguards that do exist are not widely implemented, and there are serious health and safety impacts for which no solutions have been found. However, the industry has received many government incentives that make it cost effective for corporations to invest despite these limitations. Most of the regulations that protect our air and water were waived for the industry, bringing down their costs. Hundreds of thousands of acres of public land were leased for drilling. Even now, governments at the state and national level are considering providing incentives to convert power plants and vehicle fleets to natural gas, increasing the market available for gas and therefore the profits of shale gas drilling. All these incentives were provided without requiring the industry to perfect the safety of the technology. Similar incentives exist for the coal and oil industries. Incentives for renewable energy do exist at the state and federal level, and they have caused a tremendous expansion of new projects wherever they are implemented. But, the subsidies for fossil fuels and nuclear energy are still larger than those available for renewable energy[11].

Furthermore, these fossil fuel energy sources also have hidden costs, through their impacts on our health and our natural resources. From asthma to acid rain, each year coal fired power plants cost the nation over $62 billion in hidden costs[12]. These include damage done to crop and timber yields, buildings and materials, and human health. Who pays these costs? The government foots the bill for environmental cleanups and Medicare, while individuals and businesses pay the costs of health care for illnesses like asthma, lung cancer, and cardiovascular disease. Replacing fossil fuel sources with renewable energies also eliminates these costs to our pocketbook and our quality of life.

Renewable technologies also have environmental impacts, through the energy and materials they require to produce, and the footprint of large-scale installations in the natural landscape. For all forms of energy production, it is important to evaluate the impacts across the lifecycle of the technology, from production of raw materials, through installation and operation, and disposal at the end of its lifecycle. When viewed across the entire lifecycle, renewable technologies have vastly reduced costs compared to fossil fuel technologies[15]. It is still important, however, to consider the geographic location of these impacts from a social justice standpoint; for example, wind turbine construction has an obvious impact on those who live near the turbines, but also creates a demand for rare earth metals derived from mining operations in China and other overseas locations. However, the final impacts still add up to far less damage than fossil fuels create.

The environmental costs of renewables can be reduced further if they are implemented in a social and political context that prioritizes community and environmental health, rather than corporate profit. For example, some large wind farms have been built in the path of bird migrations, or near residences that are impacted by noise. However, our current system does not require wind installations to consider these impacts any more than it requires fossil fuel facilities to consider environmental and health impacts. When even a basic amount of grassroots pressure was applied to the industry after the fact, future installations were forced to afford greater consideration to ecological impacts in choosing sites, and developed technological innovations to reduce bird impacts.

However, while this example shows it is possible to improve these technologies by paying some attention rather than no attention to their impacts, we can do even better. Most renewable energy installations in the United States follow the same pattern as fossil fuel facilities, in that they are large plants operated by large corporations, with little profit going back to the communities where they exist. In countries such as Germany, renewable energy is being installed community by community, with many small projects that are crafted by the community to meet their own needs. As communities and individuals go through the process of developing their own power infrastructure, they often gain a better understanding of their own power use, and implement conservation measures[16, 17].

If they own the infrastructure, any profits created from generation beyond their use also stay in the community. Furthermore, the environmental impacts of small installations are much lower than large projects; compare the single turbine on a landowner's farm, cited where he chooses, to an industrial-scale wind development on a forested ridge top. It makes sense regionally as well, because replacing central generation with distributed generation can save a tremendous amount of energy overall, and also leaves individual communities less vulnerable to disruptions in the grid from storms or other damage.

The transition to sustainable energy has tremendous potential to create jobs and grow the economy. Job growth in the solar industry, for example, was 6.8% in 2011, which is more than ten times the rate for the U.S. economy as a whole, just 0.7%[18]. A report from UC-Berkeley estimates that 4 million jobs can be created by 2030 through energy efficiency and renewable energy, and that these industries also create more jobs per unit energy than coal and natural gas[19]. The jobs and the energy can be long-term, not boom-and-bust like drilling and mining. If distributed power replaces central plants, our communities will reap these jobs and profits, on our own terms. The transition to renewable energy can be a power shift that makes sense from the perspective of equity, efficiency, and long-term sustainability.

However, this is only possible if our communities can counter the power of corporations to impose their will on our future for profit, and assert our power to determine our own future, based on our own values and needs.

now, governments at the state and national level are considering

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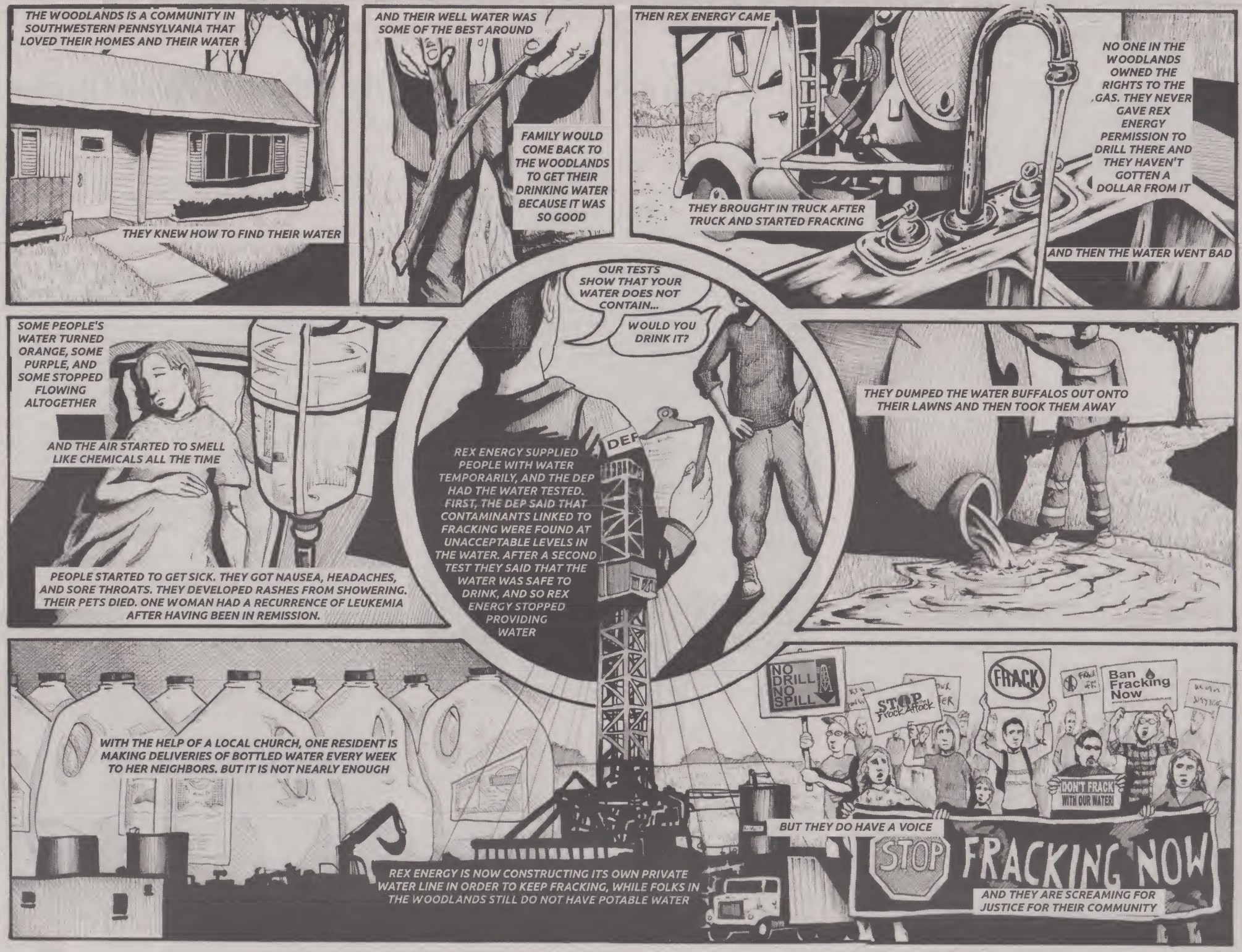
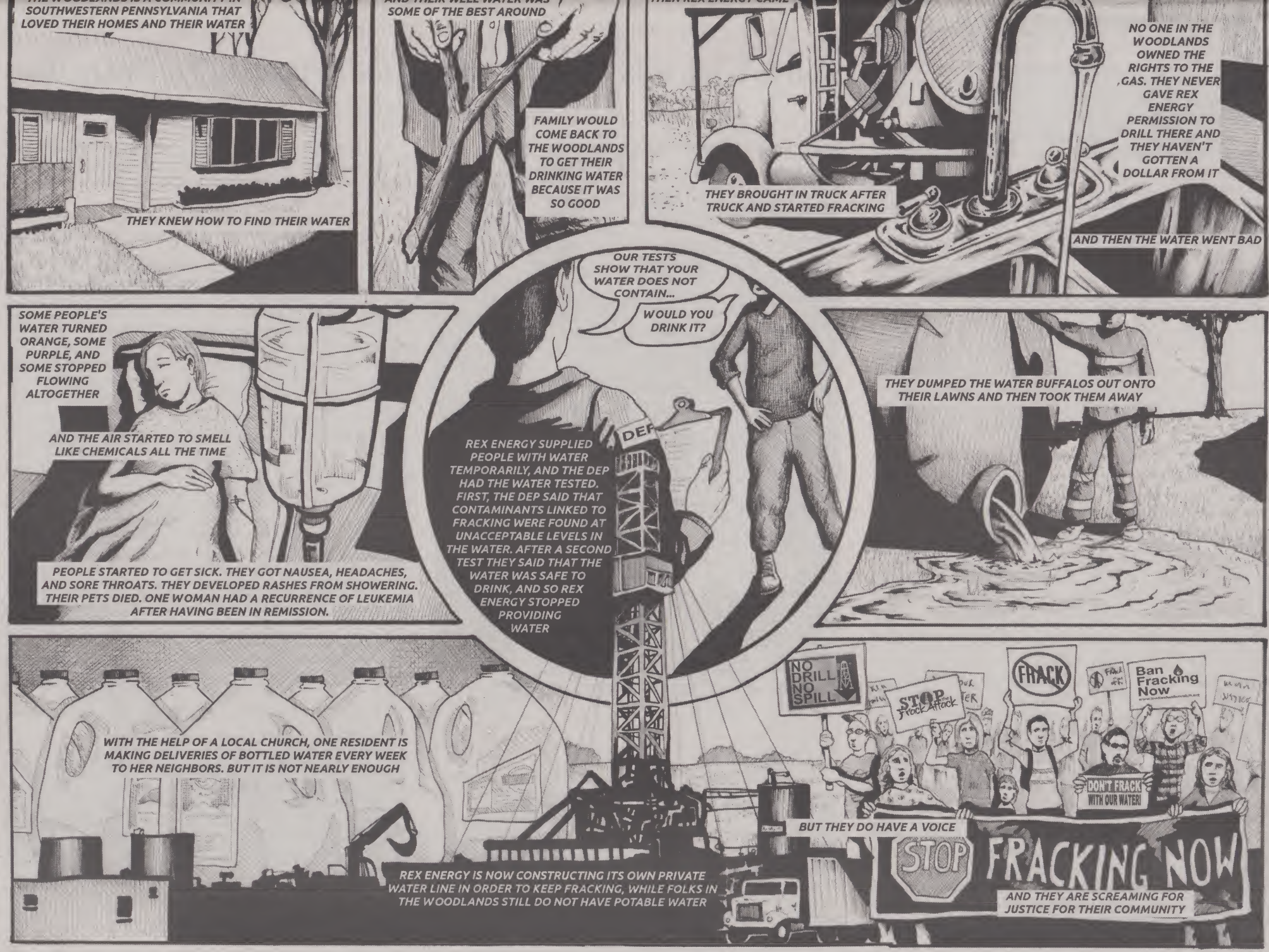
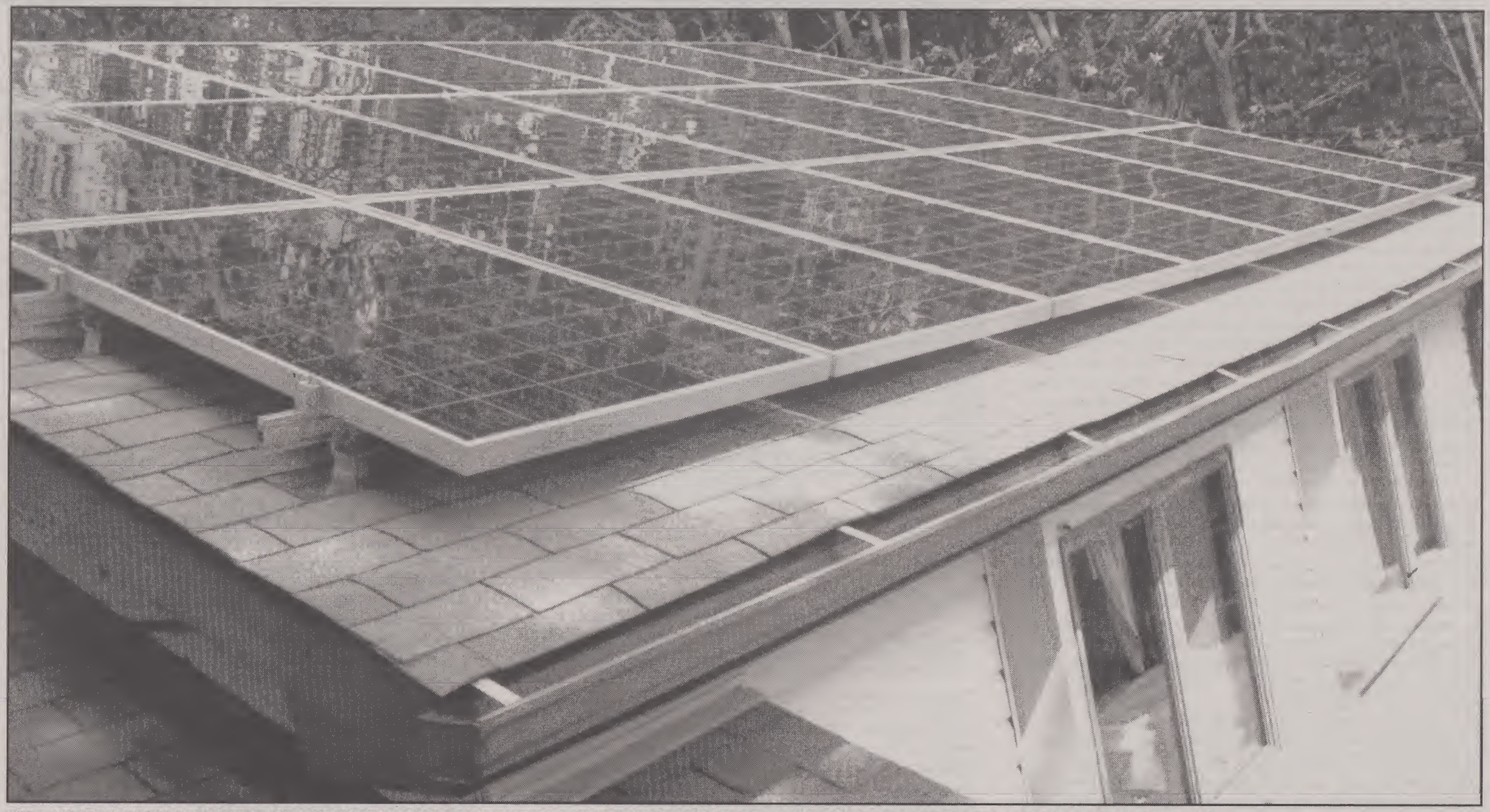



SOUTHWESTERN PENNSYLVANIA THAT LOVED THEIR HOMES AND THEIR WATER
THEY KNEW HOW TO FIND THEIR WATER
SOME OF THE BEST AROUND
FAMILY WOULD COME BACK TO THE WOODLANDS TO GET THEIR DRINKING WATER BECAUSE IT WAS SO GOOD
THEY BROUGHT IN TRUCK AFTER TRUCK AND STARTED FRACKING
NO ONE IN THE WOODLANDS OWNED THE RIGHTS TO THE GAS. THEY NEVER GAVE REX ENERGY PERMISSION TO DRILL THERE AND THEY HAVEN'T GOTTEN A DOLLAR FROM IT
AND THEN THE WATER WENT BAD
SOME PEOPLE'S WATER TURNED ORANGE, SOME PURPLE, AND SOME STOPPED FLOWING ALTOGETHER
AND THE AIR STARTED TO SMELL LIKE CHEMICALS ALL THE TIME
PEOPLE STARTED TO GET SICK. THEY GOT NAUSEA, HEADACHES, AND SORE THROATS. THEY DEVELOPED RASHES FROM SHOWERING. THEIR PETS DIED. ONE WOMAN HAD A RECURRENCE OF LEUKEMIA AFTER HAVING BEEN IN REMISSION.
OUR TESTS SHOW THAT YOUR WATER DOES NOT CONTAIN...
WOULD YOU DRINK IT?
REX ENERGY SUPPLIED PEOPLE WITH WATER TEMPORARILY, AND THE DEP HAD THE WATER TESTED. FIRST, THE DEP SAID THAT CONTAMINANTS LINKED TO FRACKING WERE FOUND AT UNACCEPTABLE LEVELS IN THE WATER. AFTER A SECOND TEST THEY SAID THAT THE WATER WAS SAFE TO DRINK, AND SO REX ENERGY STOPPED PROVIDING WATER
THEY DUMPED THE WATER BUFFALOS OUT ONTO THEIR LAWNS AND THEN TOOK THEM AWAY
WITH THE HELP OF A LOCAL CHURCH, ONE RESIDENT IS MAKING DELIVERIES OF BOTTLED WATER EVERY WEEK TO HER NEIGHBORS. BUT IT IS NOT NEARLY ENOUGH
REX ENERGY IS NOW CONSTRUCTING ITS OWN PRIVATE WATER LINE IN ORDER TO KEEP FRACKING, WHILE FOLKS IN THE WOODLANDS STILL DO NOT HAVE POTABLE WATER
BUT THEY DO HAVE A VOICE
NO DRILL NO SPILL
STOP Frack Attack
FRACK
Ban Fracking Now
DON'T FRACK WITH OUR WATER!
STOP FRACKING NOW
AND THEY ARE SCREAMING FOR JUSTICE FOR THEIR COMMUNITY



THE 21 SOLAR PANELS CINDY WALTERS AND MIKE ATHERTON INSTALLED ON THE ROOF OF THEIR GREENSBURG, PA, HOME GENERATE 4.8 KILOWATTS. (PHOTO: MARCELLUSPROTEST)

Rustbelt Residents taking Sustainable Energy into their own Hands

By Jessica McPherson

Running America on renewable energy may seem like a futuristic idea, but people in our region are already converting their homes and businesses to run off of solar, wind, and geothermal energy. These pioneer projects, whether on the scale of a residence, community, or industrial facility that feeds the grid, often have the effect of opening doors for

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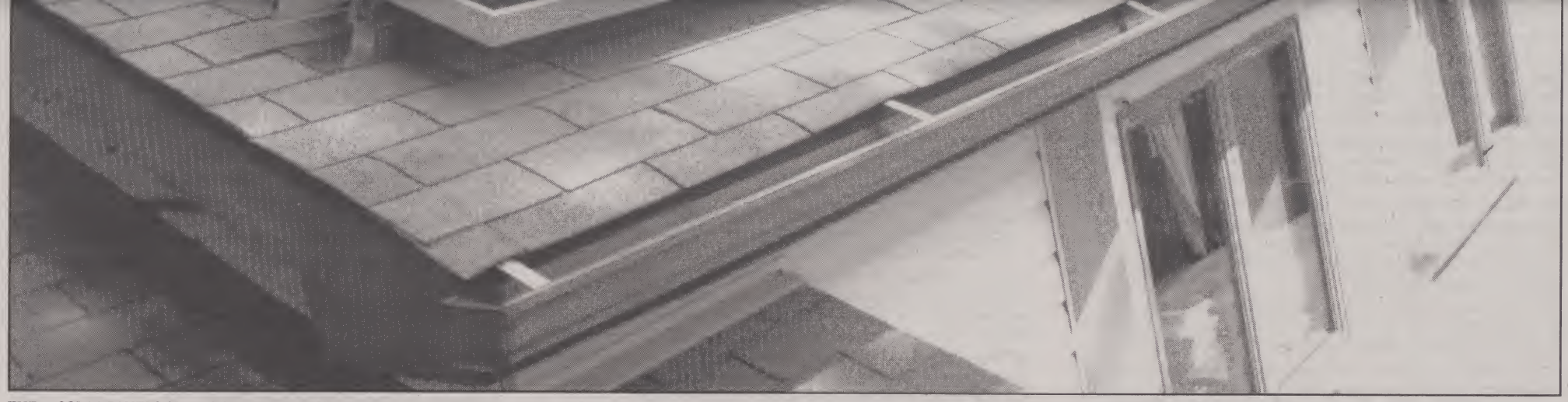

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Running America on renewable energy may seem like a futuristic idea, but people in our region are already converting their homes and businesses to run off of solar, wind, and geothermal energy. These pioneer projects, whether on the scale of a residence, community, or industrial facility that feeds the grid, often have the effect of opening doors for future similar projects and are paving the way for a larger scale transition in the long run.

Cindy Walters and Mike Atherton of Greensburg, PA installed 21 solar panels on their roof. The panels can generate 4.8 kilowatts, which powers all their electrical needs, and more – "We can go anytime during the day and watch the meter going backwards," says Mike. Their solar project was done by a local installer, JB Solar, and the panels were even produced locally by Solar Industries in Mt. Pleasant, PA. They chose to purchase their panels outright, which required an initial investment, but according to Mike, "It's actually more than reasonable; we'll be getting our money back in 5-7 years. That's a much better rate than you get in any stock market that I know of."

Although prices have come down, there are now a variety of ways to start up solar projects that require less cash up front. Stefanie Spear is president of Expedite Renewable Energy, based in Cleveland, Ohio.

"There's opportunities for businesses, residents, non-profits, and government entities who want to have onsite projects, but don't want to make the financial investment. You can get investors to come in and actually rent your rooftop, install the project, and then sell you back the electricity that's being generated. And most times, in that contract, you are paying less for kilowatt hours than you would pay the utility you are interconnected to."

Spear recently worked with the village of Valley View, a community just outside of Cleveland, to do a solar installation that was financed through this power purchase and lease agreement model. The 103 kilowatt installation now powers 30 percent of

Renewable energy projects often have a way of extending their impact beyond the site where they are installed. A few years ago, Pearl Road Auto Parts and Wrecking came to Stephanie Spear and asked if they could power their business with a wind turbine. The business is located in the City of Cleveland, which had never had a wind turbine within its limits before. She told us the story:

"We obviously needed to go get a permit. We needed a permit to install a wind turbine. We went in front of zoning and they're like "What? What is this, are you crazy – you want to do what?" Fortunately, after that initial kind of shock, they were very open and willing to get educated on, one, why this business owner wanted to make this investment, and, two, is it viable, is it something they can do. And so when push came to shove and it went to a vote, we were very fortunate that zoning passed the variance and allowed the wind turbine project to move forward. And they also noted, after giving approval, they would never give approval again unless zoning was passed for wind turbines in the city."

The zoning board's decision was a message to city council and citizens that legislative action was needed. Spear responded by going to the council and the city's sustainability coordinator; "Within maybe five meetings, we knocked out wind turbine zoning legislation for the City of Cleveland. We took it in front of city council, we got it passed, and now they have it. So, therefore, any other company that would want to invest in wind could then go to the city and know whether they have the right kind of project to meet the zoning regulation."

Pearl Road Auto Parts now gets about 50% of its power from wind, and their effort to move towards sustainable power opened the doors for others. "The best thing, I think, was that it educated so many people within the city." Three more wind turbines have since been built in Cleveland, and a year-long wind resource study was just completed. Since all the turbines are located along highways into the city, tens of thousands of people see them each

windstorms. So whether it's Mother Nature, or whether it's some nasty human nature that is hitting us, when those power lines go down for one reason or another, thousands and thousands of people are without power. Instead, the solar panel, in household after household after household, allows us to have the potential for what we call a community power grid."

The process of building a community power grid can also transform the community itself. Walters and Altherton cited the example of Wildpoldsried, a tiny, mostly agricultural town in Germany that, in the late 1990s, like many similar towns in Western Pennsylvania, was in deep economic distress. The community decided to re-invent itself around renewable energy, agreeing on three principles: 1) Renewable Energy and Saving Energy; 2) Ecological Construction of Buildings Using Ecological Building Materials (mainly wood-based); and 3) Protection of Water and Water Resources (both above and below ground) and Ecological Disposal of Wastewater. Today, the town generates 360% of the energy it needs, and $5.6 million in profits each year[6].

The initiative was spearheaded both by the mayor and town council, but also by people in the village. Property owners tested out renewable facilities on their own properties, like a biogas digester on a dairy farmer's manure pit, and a constructed wetland to process sewage. Citizens sought out investors to finance wind turbines, then banded together to cooperatively purchase more. Today, the town has solar panels on 190 homes, 6 wind turbines, several biogas digesters, and the wastewater from all of its 2600 residents is treated through constructed wetlands along the nearby river. The wetlands also provide flood control, whereas in the past flooding was a constant worry for residents.

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Spear recently worked with the village of Valley View, a community just outside of Cleveland, to do a solar installation that was financed through this power purchase and lease agreement model. The 103 kilowatt installation now powers 30 percent of Valley View's community recreation center.

Technological improvements have also made it possible to easily install solar panels one by one, instead of all at once, which allows the home or business owner to spread the costs out over time. The paybacks, meanwhile, start immediately and increase as the system grows.

Cindy Walters emphasized that the panels actually make them money in a variety of ways: "First of all, we don't have to pay for electricity." If they produce surplus electricity that goes into the grid, the power company pays them. The panels also save electricity: "They actually shade our roof, therefore they reduce the amount of heat that our house absorbs." The value of their house went up: "As soon as we put our solar panels up, our house was instantly worth ten thousand dollars more. There's a ten to one ratio that's very standardized within the real estate industry. You take the electric bill that you normally would pay per year, you multiply that by ten, and that's the value of the increase in your home value that you will enjoy when you have to sell your house."

In contrast, shale gas drilling often causes property value depreciation[1]. Nationwide home insurance now refuses to insure properties with drilling nearby[2].

Finally, Walters and Atherton also profit from solar credits. The Pennsylvania Alternative Energy Portfolio Act of 2004 mandates that 18% of electricity sold in PA by 2020 comes from a list of alternative sources that includes solar. Power companies therefore buy solar credits from solar producers to meet this percentage, and anyone that owns solar panels qualifies as a producer.

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Cindy Walters and Mike Atherton were inspired by their own project to learn more about the potential of renewables. Mike quotes the book Reinventing Fire, by the Rocky Mountain Institute: "If we have about a 90 mile by 90 mile square covered with solar panels, it would produce all the annual electricity the United States now needs. So when people talk about, 'oh, ah, we need these other fossil fuels as a bridge' – well frankly they're not a bridge, they're a detour. We don't have to wait for this halcyon day when we've finally gotten off fossil fuels. We could generate this electricity with the technology we have in our pockets today. And not just me, around the country, around the world, we could do this[3]."

They also learned that our current system of producing energy from large fossil fuel or nuclear power plants, then transporting the electricity across a vast grid to all the users, actually has a number of drawbacks that renewable energy is well-suited to fix. The plants themselves waste a tremendous amount of energy, which is lost as heat. Furthermore, electricity is lost as it is transmitted across the grid. "In contrast, when the sunlight hits our roof, those electrons are activated just a few feet away from my computer, right? So the electrons have no transport loss." An astounding 68% of energy consumed to produce electricity is lost before it ever reaches an end-user[4, 5].

Cindy Walters learned there are other risks, as well: "Those power plants that I mentioned earlier, those inefficient big lumps of stuff, are also big targets for terrorists. They're vulnerable to

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Mike Altherton can't help imagining the possibilities for our region: "Think about the coal patch; so many of these towns around western Pennsylvania... what if we had sun patches? People could go anywhere they wanted. They could live in these little communities, face to face with their friends, and they'd have energy. They don't have to worry, 'Oh, the coal field is played out. Oh, the gas has played out.' We've got the sun, it's going to be here – we can live the life that we want to, where we want to, because the sun is going to reach us. It's wonderfully democratic."

Cindy Walters is thinking about the next steps to make it happen: "What I'd like to try to do, is get a collection of people interested in doing a two-state reinvention of energy manufacturing in Southwestern Pennsylvania." The first step would be to assess the potential from different sources like wind, solar, and small hydropower, and how much it would cost to install them. "So, we put together a prospectus, and then we say, 'ok, well we would need this much investment to buy those many solar panels; we would need this much investment this much of this, and this, and this.' And then we just go to these investors and say 'here's your legacy. You've got millions of dollars, what are you going to do with it? You can't eat it, you can't get buried with it, so why don't you leave that as your legacy, to say 'I invested in this community development." Ta-dam! That's my dream."

The simple act of installing the solar panels changed a lot in their lives. "My husband and I are now solar producers. We're like a mini-company. I never thought I'd be an entrepreneur. You know, I'm a teacher. That's what I am. I never thought of me as somebody who's actually producing energy and making money, but that's what I can be."

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SHALEFIELDS GRASSROOTS
REPORTER

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(PHOTO: MARCELLUSPROTEST)

This broadsheet was brought to you by...

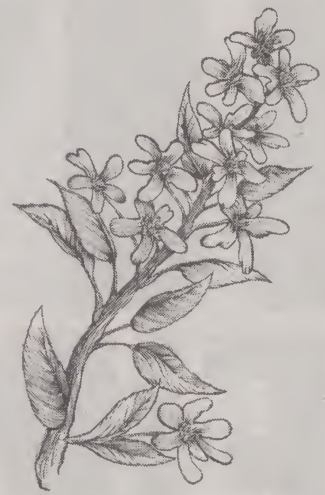
The Shalefields Grassroots Media Project, a joint project of the Shadbush Environmental Justice Collective and the Pittsburgh Independent Media Center. Through print, video, audio and web-based media we hope to amplify voices from the grassroots of the gaslands to collect stories from those affected by natural gas drilling, and train people to report on the impacts of shale gas drilling in their communities throughout our region. Contact us at (412) 444-FLOW (3569) or info@indypgh.org.

The Pittsburgh Independent Media Center is an all-volunteer organization dedicated to grassroots, community produced journalism. We broadcast stories from the Shalefields Grassroots Media Project, as well as other news, on Rustbelt Radio, which airs on WRCT 88.3 FM in Pittsburgh Mondays at 6PM andTuesdays at 9AM. Rustbelt Radio is also available on the internet, both on WRCT's live webstream at wrct.org and for download, stream or podcast from our website at radio.indypgh.org.

The Shadbush Environmental Justice Collective works to confront the root causes of ecological destruction, climate change and oppression. We are committed to building community-based, radically sustainable solutions that foster local autonomy and self-sufficiency in Pittsburgh and its bioregion. Visit us online at shadbushcollective.org.

The shadbush (Amelanchier arborea) is a small tree in the rose family, native to eastern North American deciduous forests. The common name arose because it flowers in early spring at the same time the Atlantic shad fish migrated up the rivers to spawn.

Shad were once plentiful in the rivers of eastern North America, and were an important food source for Native Americans and early settlers. However, shad have declined precipitously in recent decades, because of river pollution and dam-construction.



Amelanchier arborea

The shadbush's berries ripen in June (hence another common name "Juneberry"). Native Americans used the berries in pemmican and stews, and also medicinally to strengthen women after childbirth.

The shadbush is a familiar feature in urban landscaping because of its attractive white flowers and small, graceful stature.

The Shadbush Collective adopted this tree as our namesake as a symbol of the interdependence of human life and the natural world.

MARCELLUS SHALE PROTEST

Marcellus Protest is an alliance of western PA groups & individuals building a broad movement to stop the destruction of our environment and communities caused by Marcellus Shale gas drilling as well as to support other directly affected communities.

MarcellusProtest.org is a clearinghouse of citizen-interest information on shale gas drilling, with a calendar of events, downloadable resources, news and views. The group also maintains a citizen's speakers bureau available for community meetings or other events.

Marcellus Protest has organized rallies and other actions to demonstrate citizen opposition to shale gas drilling's negative affects, such as the November 3rd, 2010 protest in downtown Pittsburgh, actions to support the City of Pittsburgh's ban on drilling, and organizing to bring western Pennsylvanians to protests in Harrisburg.

Currently we are also engaged in education and outreach about shale gas drilling and its effects, support of other local community groups through resource-sharing, and coalition building to broaden the movement.

Contact us at (724) 485-9835 or info@marcellusprotest.org and visit our website at marcellusprotest.org.

Regional listing of groups active around Marcellus Shale drilling issues

Northwest PA

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Allegheny Defense Project
alleghenydefense.org

Nonprofit dedicated to the protection of the natural heritage of the Alleghenies and the Allegheny National Forest (ANF).

Marcellus Outreach—Butler
MarcellusOutreachButler.org

The group "provides a strong, credible voice to protect the health and safety of our communities from the effects of the natural gas drilling" through outreach, education & action.

Fracking Truth Alliance of Lawrence and Mercer Counties
www.facebook.com/fackingtruth

A group of citizens concerned about the dangers of fracking.

Southwest PA

South Hills Area Against Dangerous Drilling
www.shaadd.org

South Hills Area Against Dangerous Drilling (SHAADD) is a group of concerned citizens working to educate and advocate for our right to protect our communities and environment.

Beaver County Marcellus Shale Organizing Committee
tinyurl.com/BeaverCountyMarcellus

Center for Coalfield Justice
coalfieldjustice.org

Three Rivers Waterkeeper (Pittsburgh)
threeriverswaterkeeper.org (412) 589-9411

Protecting waterways throughout Southwestern PA through water sampling, discharge & use permit review, community engagement, and active investigation of water threats.

Upper Burrell Citizens Against Marcellus Pollution
ubcamp@gmail.com (724) 337-7470

Westmoreland Marcellus Citizens
westmorelandmarcellus.blogspot.com

A grassroots group working to pass ordinances and bans in local municipalities, and also on education and outreach.

Western/Central PA

Pennsylvania Alliance for Clean Water and Air
pacwa.org

A group of concerned citizens in Western PA "raising awareness of the dangers of hydraulic fracturing on public health and the environment.

Northeast PA

Chenango Delaware Otsego Gas Drilling Opposition Group
un-naturalgas.org

A representative organization working in the areas of action, education, and strengthening local government's ability to protect communities.

Occupy Well St.
www.owsstopfracking.org

Occupy WELL Street is a way to confront and speak out against the oil and gas corporations laying siege to our communities in their relentless pursuit of natural gas through creative resistance.

Responsible Drilling Alliance
ResponsibleDrillingAlliance.org

Grassroots, all-volunteer coalition for education and advocacy, based in Lycoming county. RDA supports a drilling moratorium and advocates for the protection of the economy, environment, health, safety and quality of life.

Statewide & National Groups

Clean Air Council (Philadelphia)
cleanair.org

A member-supported, non-profit environmental organization dedicated to protecting everyone's right to breathe clean air.

Clean Water Action PA
cleanwateraction.org/pa

Nonprofit whose work includes grassroots organizing, expert policy research and political advocacy focused on holding elected officials accountable to the public.

Community Environmental Legal Defense Fund
celdf.org

Works to facilitate passage of Community Rights Ordinances banning fracking at the municipal level. Legal and organizing services available

Nonprofit dedicated to the protection of the natural heritage of the Alleghenies and the Allegheny National Forest (ANF).

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tinyurl.com/BeaverCountyMarcellus

Center for Coalfield Justice
coalfieldjustice.org

A non-profit based in Washington, PA whose mission is education, assisting citizens' efforts to defend their rights, and working to improve and enforce laws and public policy.

Group Against Smog and Pollution
gasp-pgh.org

A nonprofit citizens' group in Southwestern PA, focused on environmental education, litigation, and policy especially related to air quality in the Pittsburgh region.

Marcellus Protest
marcellusprotest.org (724) 485-9835

An alliance of western PA groups & individuals building a broad movement to stop the destruction of our environment & communities.

Mountain Watershed Association
mtwatershed.com (724) 455-4200

Nonprofit concerned with the conservation, restoration and protection of the Indian Creek Watershed in Westmoreland and Fayette Counties. The Marcellus Citizen Stewardship Project provides citizens with tools and knowledge to monitor drilling.

Shadbush Collective
shadbushcollective.org

Confronting the root causes of ecological destruction, climate change and oppression in Pittsburgh and its bioregion.

Sierra Club Allegheny Group
alleghenysc.org

Local branch of national group, protecting communities, and wild places since 1892.

Protecting waterways throughout Southwestern PA through water sampling, discharge & use permit review, community engagement, and active investigation of water threats.

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Damascus Citizens for Sustainability
damascuscitizens.org

A grassroots nonprofit dedicated to protecting the Upper Delaware River Basin and beyond from the ravages of deep-shale gas extraction.

Delaware Riverkeeper Network
delawareriverkeeper.org

(215) 369-1188

A nonprofit membership organization working on environmental advocacy, volunteer monitoring, stream restoration, public education, and litigation to enforce environmental safety laws.

Gas Drilling Awareness Coalition
GDACoalition.org

GDAC (for Luzerne County based in Dallas, PA) is a nonprofit community educational association concerned with the negative effects of drilling for natural gas in PA.

Gas Truth
gastruth.org

A grassroots community group fighting gas drilling, currently with chapters in Berks, Lehigh Valley & Central PA.

Protecting Our Waters
protectingourwaters.wordpress.com

Protecting Our Waters is a Philadelphia-based grassroots nonprofit organization committed to protecting the Delaware, Susquehanna and Ohio River Basins — the state of Pennsylvania — and our region from unconventional gas drilling and other threats to our drinking water, environment, and public health.

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celdf.org

Works to facilitate passage of Community Rights Ordinances banning fracking at the municipal level. Legal and organizing services available to community groups and municipal governments.

Earthworks (national)
earthworksaction.org/hydfracking.cfm

A Washington, DC-based nonprofit protecting communities and the environment from the destructive impacts of mineral development. Comprehensive information on fracking available on their website.

PA-CLAW: Pennsylvanians for Clean Land, Air and Water
www.facebook.com/pa.claw.3

A coalition of grassroots organizers and organizations working for a moratorium on fracking for natural gas and its infrastructure across the state of Pennsylvania through various coordinated statewide campaigns and actions.

Penn Environment
pennenvironment.org

Staff and volunteer-based advocacy nonprofit.

Marcellus Earth First
marcellusearthfirst.org

Marcellus Earth First! is a regional network of Earth First!ers united in the struggle to stop fracking–a region wide ecological terror. We are committed to a NO COMPROMISE approach to end drilling everywhere.

WE CAN'T DRINK THEIR

DRINK THEIR MONEY*

MONEY

***or benzene, toluene, ethylbenzene, naphthalene, xylene, 2-butoxyethanol, hydrogen fluoride, ethylene glycol, hydrogen chloride, formaldehyde, etc.**

RESIST HYDRO-FRACKING!

shadbushcollective.org

justseeds.org